NEXT
GENERATION

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December 1997

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volume **three**

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The year of
the PC?

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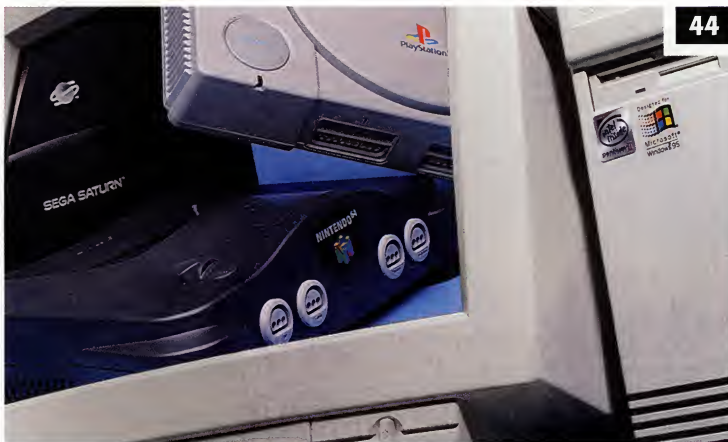
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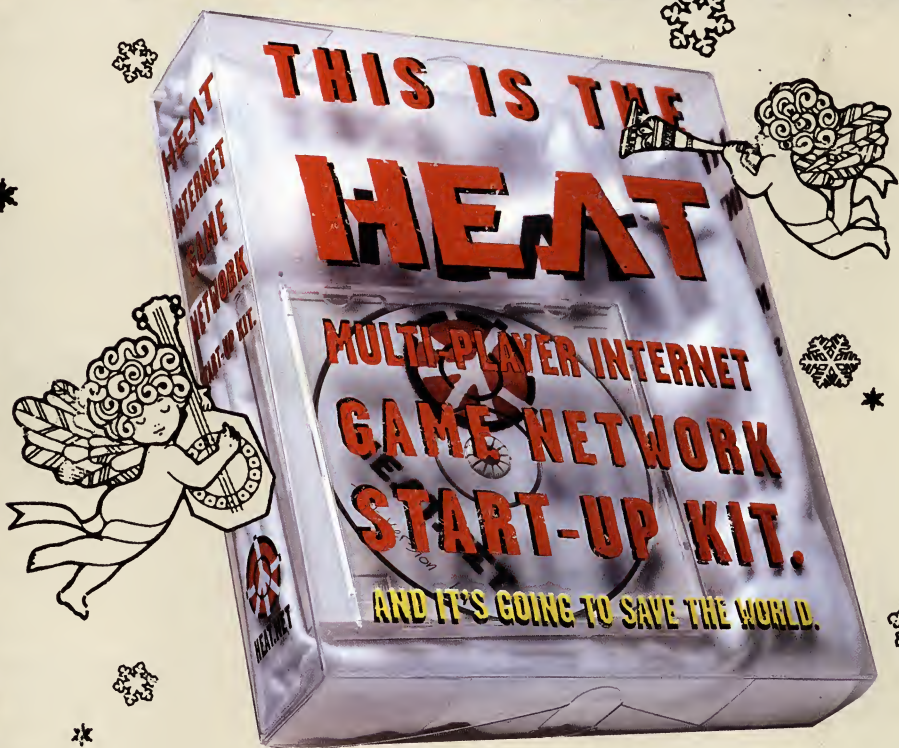
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Lara Croft is huge. And we're not just making a cheap joke. Propelled to stardom by the megahit *Tomb Raider* (after *Doom* and *Command & Conquer*, destined to be the most influential game of the decade), she's the biggest thing in videogaming. **Next Generation** meets the man behind …

The **most popular woman** in the **world!**

O ne day after Princess Diana's funeral in London, and the cursed paparazzi show no sign that they've cleaned up their act. Similarly, the suffocating mass of show-goers cramming the Eidos booth at September's European Computer Trade Show (ECTS) are jostled and shoved by a horde of impatient photographers. **Next Generation** is a seasoned veteran of videogame press events, but we have never seen anything quite like this before. More people join the crush, bodies are squeezed together, tempers flair.

The cause of all this agitation? Lara Croft is billed to appear, in person, for a 15-minute photo-call. Onlookers are amazed. How can a videogame character attract such attention? Or rather, how can a model dressed as a videogame character generate such emotion?

The Lara Croft phenomenon has taken everyone by surprise. From appearing on the cover of the U.K.'s *Financial Times* to appearing with U2 on the Popmart tour, she has transcended the world of videogames and entered the media mainstream. Not even Mario has ever gotten his cheeky grin on the cover of *The Face*. But how did she do it? Was her rise cleverly engineered, or was she innocently embraced by a gameplaying public in need of a new hero? **Next Generation** met with Core Design's Jeremy Smith to discuss everyone's favorite archaeologist.

Weird science

NG: Just how big is the Lara Croft phenomenon right now?
Jeremy: It's just huge. It's affected people in ways we never expected, even some scary ways.

NG: Scary ways?
Jeremy: I've had letters from people who talk about how they continually get her to pick up medipacks because of the way she says, "Ah ha!" I've had people write to me and say, "Do you know that if you reverse into one corner of the Aztec

level, you can get a full frontal view of her chest and you can sit and gaze at her for hours!" One guy wrote me a letter like that and finished with, "My wife is getting worried about the time I spend with Lara. What are your thoughts on this?"

NG: And what were your thoughts?
Jeremy: Get a fucking life!

NG: Good point. But how did this all begin? How was the Lara Croft character originally created?
Jeremy: We came up with the original *Tomb Raider* game concept around four years ago. It was at the start of the first wave of 32-bit, and we were just starting on our 32X stuff for Sega, having enjoyed some success on Sega CD. I think we'd also just gotten hold of our first Saturn development kit — this huge fridge thing.

But we were stuck — we didn't know what to do with it all. I'd just come back from a CES show in the States, and I was astounded at how far Core was behind. I saw a lot of potentially great 32-bit stuff from other companies and I was really concerned. It was as if Core was stuck in the 8-bit and 16-bit stuff. So we took everyone from the company to a big off-site meeting and said, "Where are we going?" and "What are we going to do? Let's have an open forum on games," and it was great. Toby Guard came up with an idea for this tomb raiding game, which I loved because I'd always had this thing about raiding pyramids. The idea was kicked around, and we came up with the *Tomb Raider* initial plan. We then got bogged down with other stuff — we spent eight or nine months working on *BC Racers* for the Sega CD, for heaven's sake! [Laughs] — but then we said, "Right, let's get on with *Tomb Raider*." At this time Saturn was happening and PlayStation was almost happening — but we still hadn't gotten hold of PlayStation development kits — so we picked Saturn to lead on. The initial team started fleshing out the idea of *Tomb Raider*, creating Lara, and development started.

talking

You can't say *Tomb Raider* was a success just because it featured a big bird with big tits

NG: So Lara is really just four years old?
Jeremy: Yes, but there were four or five versions of Lara kicking around before we settled on the Lara you see now.

NG: When did you first realize that *Tomb Raider* was going to be such a big hit?
Jeremy: We're kind of away from the real world up in Derby — we write videogames, and that's about all there is to do. My contact with the outside world is from the continual back and forth into London, visiting Eidos, and involvement in all the ancillary deals surrounding *Tomb Raider*. But we realized that the game was going to be phenomenally successful around six months before we launched it. I told the team, but they said, "No way. It's never going to do the numbers you say!" But I told them that they were going to be surprised — and they were. Then, when the game launched, the whole thing went crazy.

NG: When did you get the first hint that Lara was going to have a life of her own, outside of the game?
Jeremy: Funnily enough, it actually all began with the

Financial Times, Britain's top financial newspaper. It's a very serious, sober, broadsheet newspaper, and hardly the place you might expect Lara to be "discovered." But Eidos had announced its latest financial results, which were great results, and so the *Financial Times* had decided to put Eidos on the front page. They'd been given some Eidos information and artwork, and they decided to use Lara to illustrate their news piece. So all of a sudden there's Lara, in your face, on the front page of the *Financial Times*!

NG: What happened next?
Jeremy: Then the *Sunday Telegraph* [another high-profile British newspaper] phoned us and asked to do a piece on Lara and *Tomb Raider*, and it ended up putting a big picture of Lara on her motorbike on the front cover of the Sunday edition's supplement. This was the second biggest Sunday newspaper in England, it has a huge circulation. And so then the story of Lara got picked up by the tabloid newspapers, and soon all of them were running articles on her and the game.

It was then that *The Face* magazine — who always put a face on its cover — rang us up and said, "We don't know if this will work, and we're a little nervous, but we're thinking of putting Lara Croft on the cover. Can you send some artwork?" They were tying *Tomb Raider* into a story on virtual women in Japan and around the world. They asked us if we could pose Lara in some different clothes, so I asked the *Tomb Raider* team at Core if they wanted to do this. I asked the team because really, they are Lara. The team thought about it and decided this was something Lara would do. They decided that having her on *The Face* would be cool, so they modeled her in an evening dress holding an Uzi. *The Face* loved it, ran with it, and although it isn't one of the world's best-selling magazines, it is hugely influential, and from that point on, the phone didn't stop ringing.

NG: So all these people were approaching you from the outside, because they'd heard about the game or seen the other press. At this point you weren't actively promoting Lara at all?
Jeremy: Oh, absolutely not. We had nothing to do with it! It just evolved, basically because of the phenomenal press *Tomb Raider* got and because it was such a huge hit. Originally, we just did a handful of renders of Lara, which we gave to the press — and they were used extensively. All of a sudden, we realized that there was a huge demand for this stuff. Looking back on it all, we could have done a few things smarter, but we were overwhelmed by the demand for it all.

People looking in from the outside could relate to a female human character. Maybe if it had been, say, Mario or a small bloody, erm, I dunno — crocodile or something — they wouldn't care. But because Lara can be put on the front of newspapers, people are interested. They look at Lara and say, "Shit! What is that!?"

NG: Or, more likely, "What are those?" But did this lead to other people trying to leap on the Lara bandwagon?
Jeremy: We had a long series of talks with a sportswear company that wanted to sponsor her. They wanted to put a logo on her. It would have been done subtly, but in the end we decided that we didn't want to sell her out. We could have had her wearing Timberland boots, all sorts. But the gamers would know that we'd sold out — we needed to keep her pure.

Making it big

NG: So why has Lara seemingly captured the imagination of so many people, and why now? After the introduction of 32-bit processors and the advances made in computer graphics, all of a sudden game characters can look like real people — they're not just blocky cartoons. So after the dawn of 32-bit, was it inevitable that sooner or later, someone would come up with a lifelike character that would spark this kind of attention?

Jeremy: No question, you're right. And we're looking forward to when a male character has the impact of Lara. Someone will do it, and soon. Maybe it will be us — we're certainly working on it.

NG: But here's where the controversy starts. Could Lara really have been a male character? Isn't her success in this predominantly male, teenage audience largely because she's an unfeasibly proportioned, scantily clad, pouting babe?

Jeremy: Personally, I agree. But I'm sure some of my colleagues in the industry would want to argue the point. I think if Lara had been a guy — well, *Tomb Raider* was a great game, so you can't say that *Tomb Raider* was a success just because it featured a bird with big tits.

But could a male character be as successful outside of the game? I don't know. Probably you wouldn't get the same paparazzi-style frenzy that we had at the Eidos booth when Rhona [Rhona Mitra, the actress who is the "official" Lara] appeared for her photo shoot. You've got to remember that we're working in an industry that is around 90% male. But a great game can push characters to the fore, and we all watch movies with male heroes in them — Sylvester Stallone, Arnold Schwarzenegger, and so on. So maybe the right male character could get the same attention as Lara.

NG: Certainly it's a controversial issue. With *The Face* cover and all of the other media attention, Lara has become an ambassador for the game industry. Certainly she's spreading the videogame word to a fresh audience, but what is the message she's sending? A lot of people see the whole Lara phenomenon as very sexist, and representing the game industry in a bad way.

To what extent do you think she is doing good, and to what extent is she doing harm?

Jeremy: As for doing bad and the whole sexist angle, well, people are always going to pick up on sex. And this issue doesn't stress us out so much at the moment because we think we're on top of it. People ask us all the time if we are going to do a nude Lara, and the answer is that of course we're not. We're in the videogame business, we're not into promoting sex.

As for doing good, I think the Lara phenomenon has been tremendously positive. In Japan, the majority of *Tomb Raider* registration cards returned are from women, and this is unheard of. So you can say that *Tomb Raider* has encouraged more women to play games. Lara has also brought the game industry attention from a much wider audience of media. For Core, and for the industry as a whole, this has to be a good thing. What Lara has managed to do is get into people's offices, get into people's homes, and spread the idea of videogames to an audience that normally would never encounter them. You have to remember that a huge proportion of the population is computer illiterate and not

People ask us if we are going to do a nude Lara, and of course we're not. We're in the videogame business

exposed to videogames every day. Half of the population of people over 35 years of age don't know how to operate a computer. They certainly would never ordinarily think of playing a videogame. But because Lara has been in so many different forms of media and has created such a buzz, these people are all of a sudden aware of games, and some of them think, "You know what? There's a computer at work. I could check out this *Tomb Raider* game at the office." And they're becoming gamers. We know for a fact that this has happened, and Sony also knows that a lot of people bought PlayStations just to play *Tomb Raider*.

NG: But for every one woman or person in the outside world who sees Lara and thinks, "You know what? Maybe I'll give videogames a try," aren't there five or ten others who think, "I always suspected that videogames were just juvenile distractions for teenage boys — and now I've been proved right!"

Isn't big-busted, scantily clad Lara confirming a lot of people's worst prejudices about videogames?

Jeremy: But these people also wouldn't want to watch a Sylvester Stallone movie! They are not our audience. These

an experience. As for her appeal, it's not just that she looks so great. She also is amazingly well-animated and does some really cool things — her character is more than just the way she looks.

Flesh and blood

NG: Rhona caused quite a commotion at the booth today. When did you decide that you needed to have a model who could be the "official" Lara in real life?

Jeremy: Core was attending a trade event, and we decided it would be good to have a photo-call with some models who looked and were dressed like Lara — it's the kind of thing the game industry has been doing at trade events for years. So we got these models, we had four of them, and it went down well. They didn't particularly look like Lara, but they had great tits, skimpy tops, short skirts — and everyone wanted to be photographed with them. We realized then how big the following behind Lara really was.

NG: Why did you go from having the four Lara models to sticking with just one?

Jeremy: We wanted to take the concept from simply having a model available for a photo-call to someone who also had some character, who could maybe do a little more — someone who could act and maybe sing.

NG: But by turning Lara into a real person — someone who speaks and exists outside of the game — isn't there a danger that some of the videogame Lara magic is lost? Surely people have their own ideas of what she's going to be like in real life.

Jeremy: Absolutely. For instance, the game character Lara — the real Lara — doesn't speak. So as soon as you let a human play Lara and ask her to do more than simply look pretty, it's impossible for her to remain 100% true to the real Lara. How would she know what to say? How would she know Lara's opinions?

At Core, we are very aware of these issues and very reluctant to give Lara a character beyond that of the game. We like her to remain something of an enigma. So when Rhona is playing Lara, we don't let her speak, and we don't let her have an opinion. If you asked Rhona what she thought of Princess Diana dying, she couldn't answer — at least not as Lara. When she answers questions in an interview as Lara, we've looked at the questions beforehand, and the *Tomb Raider* team has worked out the answers.

NG: So Lara's personality is built by the *Tomb Raider* team, and you keep a tight rein on what, through Rhona, she says and does?

Jeremy: We keep a very tight rein, and we have a large bible of information back at Core that kind of keeps track of Lara's personality. We know what her favorite color is, we know what kind of restaurant she'd like to go to and what she'd probably order when she got there, and we know what music she likes.

NG: As the *Tomb Raider* series continues, and as graphics technology continues to improve, Lara will inevitably evolve. Already in the jump from *Tomb Raider I* to *Tomb Raider II* we can see that she's graphically more sophisticated. She can also do a few new moves. Sooner or later, she'll be able to speak in the game. Later still, it might even be possible for players to speak back, at which point Lara will have to have opinions with which to answer.

people don't understand videogames, they are the computer-illiterate generation of our lifetime, and there's no point in us trying to attract them to our games.

NG: So you don't see any problem with alienating a whole section of the population. They're never going to play videogames, so why worry about what they think? You believe that the people who aren't attracted by Lara are completely out of reach anyway?

Jeremy: Yes, I firmly believe they are. And for the people who do like to play videogames — and these are largely male — Lara has been a tremendous attraction.

NG: OK, so let's talk about gamers. It's a subtle difference, but when playing *Tomb Raider*, do you think people take on the role of Lara or are they watching Lara?

Jeremy: I think they're watching Lara. They watch Lara and share the experience with her.

One interesting thing to note is that if you talk to a PlayStation player of *Tomb Raider*, you'll get a different perspective than if you spoke to a PC player of *Tomb Raider* — they're two different people. This is because you can only save your progress on the PlayStation every time you complete a section or a zone. On the PC, however, you can save any time you want to — and this leads to a more adventurous style of play. A PC player has probably seen more of *Tomb Raider* because he wasn't afraid to try out very difficult stuff. This way he's spent more time with Lara and somehow has a stronger relationship with her.

Either way, you don't play as Lara — you're just sharing

How do you plan to keep up with Lara's personality?

Jeremy: The one thing we know is that it will have to come from the game itself. Her personality has to come from the culture that originally created her all those years ago. This can't change. She started off with a great character idea, we've started to build around that nucleus, and we will continue in this way — but we'll build slowly.

NG: So you'd rather keep Lara as a rough outline of a character, to which players can add their own detail, as opposed to making her a complete, all singing and dancing personality?

Jeremy: Yes. Again, it's kind of like this whole Princess Diana deal. Loads of people were terrifically moved by her death, but hardly any of these people really knew her. Diana existed within their minds, and that's who they are mourning. Obviously, I'm talking about two completely different phenomena, but Lara also exists in people's minds. We don't want to pin her down completely — we want Lara to do what the player wants her to do. Basically, we don't want to give too much detail because answering all the questions could cock it all up.

Playing with girls

NG: Cock it all up? You say you're worried that by adding too much detail and trying to cover all the bases, inevitably you'll make a mistake somewhere and turn people off of her. But it's been reported that Lara is soon to be releasing a record with Dave Stewart [half of the Eurythmics]. How can you reconcile a desire to keep her personality low profile with releasing a pop record?

Jeremy: [Laughs] Well, you can't. If it's released by Rhona, who just happens to play Lara Croft occasionally, then fair enough. If Eidos wants to release a record with Rhona, then they can go ahead and do it. But if they want to do it with Rhona pretending to be Lara, then no, they're not messing with my girl. If the record is released as "by Lara Croft," then we've made a big mistake.

Sure, there may be some tie-ins — some screenshots on the packaging and maybe a track in the game, or something — we're even looking at the idea of designing some kind of virtual Lara to dub singing the song. But this is a big area of internal debate within Core and Eidos.

NG: So you're worried that a pop single might damage Lara's image?

Jeremy: Yes, I am. The press would love to destroy this record, and with the greatest respect to Dave Stewart, the press would just love to knock him for ever getting involved with a silly videogame character. Basically, I think that the record has to stand on its own, away from any Lara Croft tie-in, or it shouldn't happen at all.

NG: So what's next for Lara Croft — the movies?

Jeremy: Right — and this is the obvious place for Lara to go next. She is a movie star waiting to happen. And my personal view is, "Why fuck that up for the sake of selling a few crappy albums?"

If the Lara movie ever ends up on some Hollywood executive's desk, I don't want him to think, "What a great idea! But it's a shame about that dodgy record that got trashed in the press and pissed everyone off." Basically, I don't want her cheapened.

NG: So have you started talking about the idea of a Lara Croft movie with any of the studios?

Jeremy: Yes, we're in discussions currently with two or three movie studios, and there are scripts written and being messed around with. So yes, we're on the Hollywood trek.

NG: And are Hollywood and the studios showing interest?

Jeremy: Yes, of course. She's the female Indiana Jones. Actually, this was one of the reasons that we went with a female character for *Tomb Raider* in the first place — otherwise everyone would think it was Harrison Ford.

NG: And how about in the world of videogames and *Tomb Raider* — the world of the real Lara — what's next?

Jeremy: Obviously, we've got *Tomb Raider II* coming up. Before starting the project, Toby [Lara's original designer] decided he wanted to leave, which was fair enough, but it wasn't as if we had much trouble replacing him — there was a whole line of people offering, "I'll do *Tomb Raider III* I'll do Lara!" [Laughs] Now these guys live, breathe, and work Lara 18 or 19 hours a day. That's a hard-core staff of seven people and a total of 15 working on the FMVs and last-minute stuff.

So the team has now run with the concept, and we've taken the game and Lara forward. For *Tomb II* the artists played around with the Lara model, added extra features, cleaned her up, adjusted some animations — and she went from polygon girl to the smoother Lara that we have now. Of course, 3Dfx has helped. And she's looking great.

But beyond this, I think for all of us, over the course of the last 12 months, she's evolved into something far more.
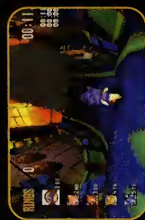
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Gumpei Yokoi: One of gaming's finest engineers dies • **The future of data storage:** A new holographic system crams more into less space • **Nintendo gets reasonable:** Lower prices on N64 carts • **GT grabs MicroProse:** Two big publishers merge • **Dural team gets to work:** Development on Sega's new machine moves along

news

Gaming news and critical analysis

Videogame industry loses one of its pioneers

Creator of Game Boy and *Donkey Kong* dies in tragic accident

One of Nintendo's most creative and prolific engineers, Gumpei Yokoi will be missed

In the game industry, where it's difficult to make a lasting mark, Gumpei Yokoi managed to make more than a few. On October 4, Yokoi, the inventor who paved the way for Nintendo's jump from playing cards to videogames, was killed in a tragic accident. After rear-ending a car, Yokoi and his companion had gotten out to inspect the damage when they were struck by another car.

An unassuming family man who enjoyed creating gadgets, Yokoi began working for Nintendo in the '60s. Although he was hired to maintain heavy assembly line card-printing equipment, he was told in 1969 by the president of Nintendo, Hiroshi Yamauchi, to invent a toy. The next day Yokoi

Nintendo depended on Yokoi as it entered the high-tech arena

Virtual Boy was Yokoi's only notable failure, precipitating his leave from Nintendo

returned with a claw on an accordion arm that kids could extend by squeezing two handles. Nintendo called it the Ultra Hand and sold 1.2 million units in 1970. It was the first of several toys Yokoi would create.

In 1973, Yokoi took Nintendo in a new direction by creating indoor shooting ranges that used light guns and solar cells instead of shotguns and skeets. Called

Laser Clay Ranges, these virtual shooting arcades were a fad in Japan at about the time *Pong* caught on in the United States.

Yamauchi came to depend upon Yokoi as Nintendo entered the high-tech arena. When Yamauchi decided to create handheld videogames, he asked Yokoi to design them. The project, known as the Game & Watch, was another success. "Game & Watch came at a time that was critical for Nintendo," recalls Nintendo of America Chairman Howard Lincoln. Along with these first handheld efforts came the creation of the now standard cross-style direction pad — a standard for which Nintendo still owns the patent.

Yokoi's next major project was to design arcade hardware for Nintendo's early coin-operated videogames. He built the hardware for *Sheriff* and *Radarscope* before being assigned to help a young Nintendo employee and game designer named Shigeru Miyamoto create the game that would be called *Donkey Kong*.

Yokoi's crowning achievement, however, was Game Boy. Introduced in 1989, Game Boy continues to sell millions of units annually, giving it the longest retail life of any console in history. Yokoi's other accomplishments included the *Tetris*-like *Dr. Mario* and Game Boy Pocket.

In 1995, Nintendo released a Yokoi project that did not catch on — Virtual Boy. When he left Nintendo the following year, rumors circulated that Yamauchi had blamed him for the product's failure. Yokoi, however, remained close to Nintendo. Even after he started Koto Company, a firm specializing in handheld electronics, Yokoi continued working with Nintendo as a consultant.

But perhaps it can be said that Yokoi's greatest contribution to Nintendo and the videogame industry was the way he guided the company's research and development. Masayuki Uemura and Genyo Takeda, the men behind Super NES and Nintendo 64, learned the business under Yokoi's tutelage and considered him the dean of Nintendo's engineers.

An extremely thin man who was always impeccably dressed and well-manicured, Yokoi was known for his sense of humor. "I've known Mr. Yokoi for a long time. He had a great sense of humor, a great smile ... a very generous and outgoing fellow," says Lincoln. "He made a tremendous amount of creative contributions to Nintendo and the videogame business over the years. People play Game Boy all over the world, and that's Mr. Yokoi's."

The **future** of **data storage**

As data storage capacity nears its limits, holographic technology may become the wave of the future

T he use of holograms in videogames for the most part began and ended in 1981. That year Atari announced its holographic game system Cosmos, but shelved the project before it ever reached consumers. Since then a few lackluster arcade games have used holograms, but the technology has otherwise been ignored. However, holography is about to impact the gaming industry significantly, this time in an entirely unexpected way.

Traditional storage is rapidly approaching a point where further leaps in data capacity will no longer be possible (see "Total Recall," **NG 23**). After 35 years of consistent increases in storage capacity, new technology has pushed the annual growth rate to an astounding 60% for the last six years. However, the horizon for this growth is approaching rapidly. Before long, future advances will no longer be limited by scientists' ingenuity, but rather, the laws of physics.

For data storage and data retrieval rates to keep up with ever-increasing processor speed, engineers are being forced to look beyond traditional media. IBM's Almaden Research Center is looking at holographic technology as the solution.

This data storage concept is based on the principles of holographic imagery. As opposed to traditional photography that records an image on film by a single beam of light, holography records an image in a solid medium from two separate beams of light (object and reference). The image is recorded from a variety of reference angles in the same solid medium. Once the object is captured, it can be viewed from different reference angles, and

An engineer at IBM's Almaden Research Center surveys an experimental holographic data storage system

only the image that was recorded from that exact angle remains visible. This allows viewers to see a three-dimensional object that changes every time they alter their vantage point.

Holographic data storage works much the same way. In this process a flat image, consisting of only dark and clear spaces representing binary code, is recorded with an object beam and a reference beam into a solid crystal. The next page of data is recorded with the same object beam, but this time the reference beam is aimed at a slightly different angle. This process is repeated with new data pages until the crystal can no longer hold any more readable data.

This system allows thousands of individual pages to be stored in a single crystal and retrieved quickly. To read this data, the system merely has to change the reference beam that is retrieving the information.

This concept has two strong features that make it a viable

alternative to the current data storage systems. The first is the density of data that can be stored in a single crystal. Currently scientists can store up to 48MB per cubic centimeter in a prototype system. This is far short of the 10GB per cubic centimeter they are shooting for, but it is enough for them to pursue more research.

The second reason holographic data storage is so attractive is the speed at which data can be retrieved. In traditional systems, accessing different sectors of the disk requires a mechanical movement of the reading device. For holographic data storage systems, independent data sectors can be reached by simply altering the reference beam with a crystal lens whose refractive properties change according to sound waves traveling through it.

For the videogame industry, this new technology could ensure that memory capacity will not be left behind while processor speeds continue to advance. **ng**

Beams of light are used to record a holographic image into the storage medium

Nintendo gets reasonable

Price of N64 software drops, eliminating Sony's best weapon

Nintendo's big holiday release, *Diddy Kong Racing*, will fall under the new price structure

Coming into the holiday season, Nintendo was already enjoying massive success in the U.S. market. And what better way to reward its loyal fans than to stop making them pay ridiculous prices for N64 games. The new pricing structure went into effect on October 15 and applies to both first- and third-party titles. According to the plan, the new average price range for N64 software will be from $49 to $59 at retail. This constitutes roughly a 15% price cut. And although this does not preclude Nintendo from releasing software beyond the $59 mark, it does mean that important first- and third-party titles such as *Diddy Kong Racing*, *Bomberman 64*, *San Francisco Rush*, and *Madden 64* will all fall under the new lower pricing scheme.

According to Peter Main, executive vice president of marketing for Nintendo, "Business is booming. New prices not only show

our competitive edge but also are our way of saying thanks to consumers for helping Nintendo claim nearly 53% of the total U.S. videogame industry."

To deliver the same lower prices on third-party titles, Nintendo had to find a way to reduce developers' expenditures. It did so by lowering manufacturing costs for N64 cartridges. Early responses from the third-party community are extremely positive, to the point where many previously reluctant publishers are now eager to get started on N64 projects. Capcom President Bill Gardner suggests, "It was unreasonable to look at Nintendo 64 from a third-party publisher's standpoint previously. Now there is room for everyone to make money and to bring more great games to the system."

It's clear that Nintendo's move towards more reasonable pricing for N64 games is aimed squarely at, and perhaps is a direct result of,

PlayStation's lower pricing and its new Greatest Hits budget lineup, with titles as low as $19. But Sony Marketing Director Jeff Fox was quick to point out, "For more than six months, most PlayStation titles have been retailing at $40 to $49 ... It all boils down to providing the greatest selection of games at the best value. That's why PlayStation is the leader."

Of course, the winner in all this is the game-buying public, which can now enjoy a holiday season with more selection than ever.

Third parties also benefit, so Midway's *San Francisco Rush* is now even more a must-have

GT Interactive
grabs MicroProse

GT spends $250 million in its quest to become the largest U.S. game publisher

GT Interactive has continued its aggressive movement towards its goal of becoming the single largest player in the U.S. videogame publishing market. With its acquisition of PC developer MicroProse, the company has established itself as the second largest U.S. videogame software company, trailing only Electronic Arts. Once the move is complete, GT will likely change its corporate name to reflect its new global

position and publishing focus.

"As a major step in our strategy to become the world's leading interactive entertainment company," says GT Chairman Joseph Cayre, "this transaction is a win for the shareholders, customers, and business partners of both companies."

The deal follows the company's recent acquisitions of development houses Cave Dog and Singletrac. Other videogame publishers like Activision and EA are buying up

smaller companies as well, pushing the industry towards a major studio model similar to the film industry.

GT's annual revenues should reach more than $500 million in 1997 thanks to this acquisition. More than 75% of that should come from its higher margin publishing operations, with the remainder coming from its distribution business.

GT will benefit from MicroProse's strong background in strategy and simulation titles, which

should contrast well with the publisher's traditional console-based action games. The company also plans to bring many of the MicroProse PC favorites to its already strong console line.

Under the merger, MicroProse Chairman Gilman Louie will serve on the GT Interactive board of directors. MicroProse will retain the right to approve the appointment of a second independent director, but none has been announced so far.
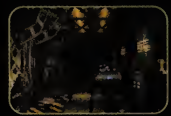
Dural team gets to work

Developers work on PowerVR-accelerated PCs and await development kits

***Tomb Raider* (top) and *Ultimate Race* (above) are titles that could be produced for Dural**

Showing that it learned from mistakes made with Saturn, Sega is making sure to create a hospitable environment for Dural developers. Until the actual development kits arrive, the company has told developers to begin work using PowerVR-enhanced PCs.

Sega has informed these developers that if they develop with a Pentium II 200 in mind, then the game will work on Dural. Because the system uses a Microsoft OS, developers can start work

early on a Pentium II-based PC that is accelerated with a PowerVR card. The console will have dedicated features that a PC does not have, however, giving software companies a solid foundation on which to begin new games.

It is evident that Sega is determined to follow the pattern set by Sony when it launched PlayStation and created a developer-friendly environment that drew early support for the console. Saturn, in comparison, featured a complicated dual

processor that was difficult to program for. Because of this and Sega's lackluster development libraries, third-party support never took off for the system.

This move bodes well for future PC-to-Dural ports, which should be easy to create because of the shared technology. Most importantly, however, now that developers know what they can program for, it is likely that many have already begun working on the next generation of console titles. **ng**

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NEXT GENERATION

Acclaim shakes up developers

Acclaim continues housecleaning efforts, turns broom on U.S. development studios and Acclaim Japan

After laying off 15% of its workers last May, Acclaim has carried on with its reorganization efforts as far and wide as its Japan office.

Sculptured Software, the first to undergo management changes, became Iguana West and is now being headed by Iguana's Peter Suarez. Multiple sources have indicated that Suarez will report to the current president of Iguana, Jeff Spandenberg, who in turn will be overseeing most of Acclaim's development studios. The outgoing president and founder of

Sculptured, George Metos, has formed his own company with several other former Sculptured employees. Still in negotiations at press time, it is unclear whether this new company will be affiliated with Acclaim. Sources indicate the new company is likely to inherit two of Sculptured's products, a realtime strategy game titled *Stratosphere* and an off-road racing game with the working title *Baja*.

In other Acclaim news, Probe is reportedly undergoing internal changes, and the company's Japanese division has all but closed

up shop. Sources within Acclaim, including a former Acclaim Japan employee, told **Next Generation** that a surplus of roughly 175,000 Japanese Turok carts had been produced at great cost (reportedly against the wishes of the management), and most of the employees at Acclaim Japan have left the company. At press time, Acclaim had yet to make a formal announcement regarding the continued restructuring, although a spokesperson denied the allegations regarding the Japanese Turok cartridge surplus. **ng**

In the

Studio

More than a gaming grapevine

While it hasn't been announced yet, Fox Interactive is working on a *Planet of the Apes* game. Little more is known, but given the age of the license and the violent and futuristic nature of the films, it should appeal to the mature end of the gaming spectrum.

DreamWorks Interactive has inked a deal with actress Minnie Driver to voice the role of Anne, the main character of the upcoming PC game *Trespasser*. First seen in **NG 35**, this first-person adventure pits Anne against the *Lost World* dinosaurs. Driver has appeared in the films *Goldeneye* and *Sleepers* and most recently was seen opposite John Cusack in the film *Grosse Point Blank*.

Twisted Metal 3? Yep. Sources very close to Sony have confirmed it will happen probably some time next year. The game is set to be developed by a Sony internal team within its San Diego studio, with Dave Jaffe, producer of the original *Twisted Metal* and *Twisted Metal 2*, at the helm again. Singletrac, which developed the first two games in the series, has since been acquired by GT Interactive and will no longer work with Sony on first-party properties.

Midway has acquired the U.S. distribution rights to *Micro Machines*. Developed in the U.K. by Codemasters, the PlayStation version will be available sometime in November. Midway will also use the license to create an N64 version of *Micro Machines* for release later in '98.

Balance of Power, an *X-Wing vs. TIE Fighter* expansion pack, is being prepared for release before the end of this year. LucasArts has developed the mission disc in response to criticism that the original didn't offer enough in single-player mode. The disc will feature two separate one-player campaigns for Rebel and Imperial fighters, along with additional multiplayer group campaigns.

Sega has purchased a minority share portion of developer Visual Concepts. With the exception of projects already in development, Visual Concepts will exclusively develop Sega branded titles for Sega's consoles and the PC. Visual Concepts is known for its work on EA's *Desert Strike* and 16-bit *Madden* titles, and the developer is currently finishing *NBA Action '98* for Saturn and PC, along with *One* for ASC Games. Sega will occupy one of the three seats on Visual Concepts' board of directors.

Return Fire 2 is scheduled to release in March of 1998 for both PC and PlayStation. To be published by MGM Interactive, this fully 3D sequel is far more ambitious than the original overhead tank game. New attack methods come courtesy of war machines that range from jump jets to PT boats to armored vehicles. The PC version will support up to 16 players via LAN or the Internet.

Redline, a new development house, has been founded by former Blizzard Senior Games Designer Ronald Millar and former Activision consultant James Anhalt. Millar is best known for contributions to *Diablo*, *WarCraft II*, and *StarCraft*, while Anhalt consulted on *MechWarrior 2* and *Pitfall: The Mayan Adventure*. Activision has already signed three Redline games, the first of which will be a role-playing strategy game due some time next year.

More proof that hot talent can get whatever they want: Two key members of Core's *Tomb Raider* team, Toby Gard and Paul Douglas, have left the company to form Confounding Factor, a new Interplay-backed development house. Gard, as lead graphic artist, created the pop-culture icon Lara Croft, while Douglas, the lead programmer, was responsible for much of the gameplay. Confounding Factor will be U.K. based, and its agreement with Interplay is a multititle deal that covers worldwide publishing rights. The company's first game is slated for a 1999 release and is tentatively titled *Leviathan*.
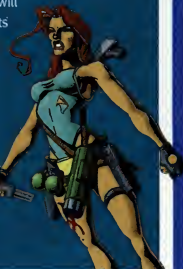
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CRASH BANDICOOT 2
CORTEX STRIKES BACK

PlayStation

Toolbox

The products that build your favorite games

Among the package's more powerful tools is Torchview, which provides realtime graphs of such things as frame rate and polygon count, so trouble spots can be found quickly

With Catalyst and Torch, Newfire has brought game creation closer to the masses than it's ever been

number of "canned" Java scripts on its web site to save developers from the drudgery of reinventing the wheel on things like collision handling and simple, fixed-state AI.

On the down side, Torch can't handle dynamic lighting of textured surfaces, at least not in its current build, which means some realtime lighting effects aren't possible. Also, there's no means of swapping color palettes within an 8-bit environment, so you're stuck with one 256-color palette for the entire world, and certain kinds of effects, like color cycling, just can't be done. However, if you're using hardware acceleration or you're not working in an 8-bit environment, there aren't any palette issues to begin with. Lastly, there's no support for multiplayer games in v1.0, although Newfire is working on TCP/IP and LAN for future versions.

Despite these shortcomings, Newfire has created a fast and flexible engine with Torch, and a carefully thought-out and (relatively speaking) easy-to-use design toolset with Catalyst. Best of all, it's cheap as hell: $2,000 for a one-seat license, putting it well within reach of practically anyone with an idea. For budding designers and hobbyists, it can provide excellent hands-on experience. For more experienced programmers, it makes a good environment for proof-of-concept testing. In all, it's more than worth the price.

Catalyst and Torch

Practically everyone who has ever played a game in their lives has had what they were convinced was the ultimate game idea, even if it was limited to, "Hey, I can do better than that." The process of coding an engine and actually designing an interactive environment, however, is daunting, especially in the age of 3D.

But that's why something like Torch, from Newfire, is potentially very exciting. At its heart, Torch is simply a very fast VRML engine with some game-oriented tweaks; but this gives designers an already created 3D engine, one which, as it turns out, is quite flexible.

To begin with, Torch, along with its all-important environment design kit Catalyst, runs under Windows NT or Win 95 and uses VRML-standard object formats. Since practically every 3D modeling package on the planet, from 3D Studio MAX on down to Lightwave and Truespace, either has a VRML export plug-in or can output it directly, it doesn't get tied down to any one modeling software (there is also a fair number of public domain ".vrl," VRML object files floating around on the Web to get you started). Second, Catalyst uses Java as its scripting language for constructing such things as object behavior, AI, and collision detection (collisions are actually kept track of by default in VRML, but it requires a Java routine to control how that collision affects the objects in question).

Catalyst itself uses a graphic interface to put together hierarchies, which control the relationships between objects in a 3D

environment, as well as the parameters of that environment itself. If that sounds a little daunting as a one-sentence description, well, it actually kind of should. However, the structure of the package itself is such that designers can work on each small part of an application at a time, then build the parts together to form a whole. Further, that structure is based on the VRML standard of "nodes" and should be somewhat familiar to anyone who's done any web programming.
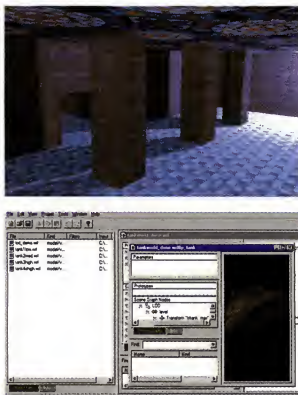
For example (and this is extremely simple — space won't permit much else), a designer adds a tank to the environment. The tank is placed in the Scene Graph tree, then nodes are added to the graph: Transform nodes for location, a Material node to control its general reflectivity and surface qualities, a Level of Detail node for changing to less complicated geometry as the tank recedes in the distance, a Script node for Java-scripted AI routines, a Sound node, etc. Then a gun emplacement is added, and its nodes are inserted. Then the designer can route EventOut values from the tank's nodes to EventIn values on the gun's nodes, and vice versa, so the two can interact and react to each other. Again, this is a gross oversimplification, but it provides some idea of how the package works at a base level.

Torch also supports Binary Space Partitioning along with z-buffering, automatically generates mip-mapping by scaling textures, and allows animated textures. It also supports OpenGL and 3Dfx's Glide API, either of which can be turned on with a single toggle. Although not currently implemented, Newfire also plans to carry a

Torch supports 3Dfx (top). Adding a Level of Detail (LOD) node to the scene view (bottom)

Joyriding

Gaming on the Internet

by **Christian Svensson**

Christian Svensson is the editor of **Next Generation Online**

Ego. We all have one, some larger than others. At its root, ego is one of the most basic motivations for people to play online games. You may be the best in your office or at your school or even just among your friends, but you probably wonder how good you are compared to other players out there. You'd like to think that you're the best there is, wouldn't you?

Already there are many ranking

league), the PGL seeks to attract the top players of several different games to compete in four seasons a year (three months each). In the first season (which started in November), gamers can compete in *Quake* and *Red Alert* matches for more than $250,000 in cash and prizes — and growing. Each season the games will be re-evaluated to see which game in each genre is the most popular. Thus the second season could

The PGL seeks to attract the top players of several different games

systems on the Internet and on most of the online services (to one degree or another). TEN has almost always had a ranking system for most of its games, *Quake* being the most notable. SegaSoft's Heat and Mplayer's ladder systems are not operational yet, but both promise that the ladder will be a key feature in the near future. Finally, Case's Ladder (http://www.igl.net/) provides gamers who aren't on any service a means to report victories and losses. In Case's case, loads of different games are tracked, ranging from *Total Annihilation* to *Descent II* to *Quake* to *X-Wing vs. TIE Fighter* — all for free. Yet, with all these systems, there is no single ladder or ranking to determine who is the best player. Someone may be the leader on the TEN ladder or on Case's ladder, but there is very little crossover among players on competing systems.

Assuming you've used or are familiar with these ranking systems, what if we were to take it one step further? NFL and PGA players earn millions of dollars per year in their chosen sports because they are generally the best. What if you had the opportunity to earn cash (enough to make a living) by being the best in the world at a game? Top *Quake* players like Dennis Fong (Thresh) are already earning more than six figures a year through public appearances and endorsements. Many other top players already have agents who represent them, and this is only the beginning.

Enter the Professional Gamers League (PGL). Created as a division of TEN (although players will not have to be TEN members to compete in the

include *Total Annihilation* and *Quake 2* or *Dark Reign* and *Unreal*, depending on what the player demand is. Eventually, there will be team play categories as well.

Here's how the league works: The first month of the season is a qualifying period (much like golfers trying to qualify for the PGA Tour). Would-be professional gamers are required to play a certain number of games against other ranked

While the average gamer probably won't have a chance at winning, it's still an ego trip to tell your friends, "I killed Thresh"

players on the TEN service. After the first month, 128 gamers qualify for each game supported in the league and participate in a tree-style, single elimination tournament, complete with referees, which stretches for the remainder of the season. There are scheduled times for matches, which the PGL expects will attract spectators. In addition, a deal to get television coverage (on an as-yet to be announced network) for at least the finals is in the works.

According to PGL reps, winners in each category will take home about $12,000 in cash per game per season. Additional cash prizes for second, third, and fourth place will also be awarded. Prizes to be awarded include full PCs,

accelerator cards, modems, game controllers, and a host of other goodies. The PGL already has pulled in some major sponsors, including AMD (title sponsor), Logitech, Rendition, 3Com, and others. More than one million dollars in sponsorships has already been generated by the PGL team, which is trying to create a brand awareness like the NFL or NBA. Don't be surprised if you see "Official Modems of the PGL" or "Official Game Controllers of the PGL" on new packaging on products from these companies.

The goal here is simple. Attract top players (who legitimately have a chance at the cash) and others will follow. While the average gamer probably won't really have a chance at winning, it's still something of an ego trip to be able to tell your friends, "I killed Thresh,"

neglecting, of course, to mention the fact that he killed you 437 times prior to your one kill. In addition, the PGL seeks to establish gaming as a fiscally viable form of spectator sports by building up the best players into known personalities, allowing people to follow their favorites, or even creating fantasy leagues that run alongside the real league. It sounds more than slightly ambitious and it won't catch on overnight, but I'll be among the first in line to see if I'm good enough. I'm quite certain I won't be alone.

ng

Arcadia

The latest arcade and coin-op news

by **Marcus Webb**

Marcus Webb is the editor of *RePlay* magazine

PC revolution to launch at expo

As this column went to press, more than 15% of the booths at AMOA Expo, a huge amusement industry trade show that ran from October 23-25 in Atlanta, were slated to feature PC-based arcade games and/or related hardware. This included ready-to-play game software, PC arcade game system cabinets, and more. That's according to sources in NANI, the National Amusement Network, Inc., a creation of the arcade operator association AMOA (Amusement & Music Operators Association).

It's perhaps a strange aspect of the arcade industry that a cutting-edge product like high-tech videogames are often presented to the public by somewhat old-fashioned mom-and-pop retailers — the smaller, family-run businesses that place games in arcades and street locations like 7 Elevens, bowling alleys, and pizzerias. So it's significant for the future of PC-based arcade games that some of the factories most trusted by these mom and pops — companies that traditionally build things like pool and foosball tables — are now lining up behind the "public PC" concept.

And, in a radical break from this sometimes-clubby industry's "sacred" traditions, the AMOA has gotten bold enough to go beyond passively offering NANI as an "open platform" for PC games from any and all sources. It has also decided to actively license and publish actual game software, moving into the role traditionally reserved for well-known arcade video manufacturers like Sega, Namco, and Atari. It's all part of a technological and marketing shake-up that has been going on for five years and is now coming to a climax. At stake, basically, is ultimate control of the arcade industry. Either manufacturers or retailers will end up with control, or both groups will engage in each other's businesses so aggressively that the dividing line between them will eventually disappear.

SNK to combine system and dedicated games

Videogame factory SNK of America says it will stay with the system approach that made its 16-bit Neo-Geo arcade system so successful during the past decade with titles like the *King of Fighters* series. (In videogame industry parlance, a "system" is one generic cabinet that can support many arcade software titles.) However, SNK's basic system is in for a drastic upgrade. At September's JAMMA trade show in Tokyo, SNK debuted its Neo-Geo 64 system and first associated titles, including a dedicated sit-down driving simulator called *Road's Edge* and a two-player fighting game called *Samurai Shodown 64*.

Neo-Geo 64 is the successor to SNK's original Neo-Geo system. It uses CD-quality audio and cartridge-based graphics. SNK Technical Services Chief Darryl Williams explains that the new platform's 64-bit memory brings four times the data storage capacity and much greater speed than the original Neo-Geo, along with 16 million colors. A custom RISC chip is built into the PCB for fewer commands and greater speed, resulting in 2D and 3D images at 60fps. In 2D mode, Neo-Geo 64 can display 1,536 sprites per frame. In 3D mode, texture memory is 16MB and vertex memory (polygon count) is 96MB. Eventually, SNK plans to offer arcades three different configurations of Neo-Geo 64 cabinets: one for driving games, a second for fighting/adventure games, and later, a third cabinet for gun games.

PlayNet restructures

Nolan Bushnell's high-tech startup, PlayNet Technologies (Foster City, California), has run into financial trouble with debts amounting to "a few million," according to a company spokesman. Director of Acquisitions Stuart Aarons advised in September that the factory, which makes Internet-capable countertop video games, has laid off 20 staff members and is asking creditors to "remain patient" while a restructuring plan is put in place. Stock prices have fallen from $6 (August '96) to less than a dollar this September. PlayNet still has some units working in the field but plans to relaunch its countertop with improved software to make the credit card swipe systems and Internet connections work better, Aarons says. The company also is getting a modem-networked tournament program up and running.

Dave & Buster's overseas: more, more, more!

Continuing its rapid international expansion, the world's leading chain of arcades for grown-ups — Texas-based Dave & Buster's — has announced a new agreement to develop its unique restaurant and entertainment concept in Taiwan, the Republic of China, Hong Kong, and Singapore, as well as planned deals for Germany, Switzerland, and Austria. Dave Corriveau, co-founder and co-chief executive officer of Dave & Buster's, stated: "Over the next decade, we anticipate there will be approximately 30 international Dave & Buster's locations providing great food and great fun around the globe." By the way, here in the States, D&B's new Cincinnati store has opened, generating the highest-ever Saturday night sales in D&B history on September 13. U.S.A. store number 12 opens soon in Denver in December.

FEC/LBE news: LAI, Disney, Sega, and more

LAI (Leisure & Allied Industries), the huge Australian distributor/operator founded and run by Malcolm Steinberg, announced on September 8 a $50 million joint venture with Philippines-based developers and shopping mall kings Ayala Land Inc. to create and operate 45 Timezone funcenters in the Philippines over the next five years. Their joint venture, called Leisure & Allied Industries Philippines Inc., gets exclusive distribution rights for all LAI products and may also manufacture them. In August, they formed another joint venture with top New Zealand trade firm Coin Cascade; a third JV with the Matahari group in Indonesia looks to open 42 Timezones by the year 2000. LAI's own fiscal 1997 revenues grew 21% to $140 million while its four-nation arcade chain topped 100 stores.

A new FEC/LBE site called HoloWorld opened September 18 in Pasadena, California, with TV, movie, and music celebs in attendance. The 35,000-square-foot site contains five themed restaurants, laser tag, a "cosmic (blacklight) pool," and a high-tech arcade.

The Walt Disney Co. and the ESPN Sports Network have teamed up to create an upscale sports bar called ESPN Club in Orlando, Florida, as part of Disney World's "Boardwalk" attraction. The store contains a broadcast booth for live ESPN broadcasts.

Another item in the "LBE rumors department" comes from a published newspaper report that the Japanese firm Tetsuo hopes to team up with Sega to open a chain of LBE/FEC sites worldwide under the name Sonic Edge. Sega GameWorks has denied this story; we're told the only factual connection is that Sega Gaming will provide a few units of bingo-type equipment to a planned Tetsuo funcenter in Oakland, California.
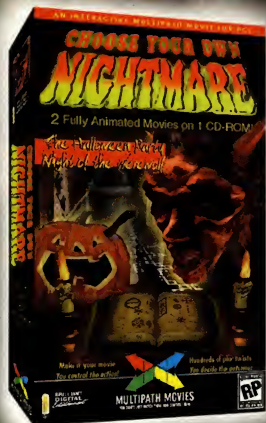
LaserTron on June 6 rolled out its first "Ground Zero" (a laser tag attraction that packs 32 player stations in 40x40 feet of space). The site of the first one was Regal Cinema's Funscape (Wilmington, Delaware); four more of the centers open at other Regal theaters this year. With no vests and no running, appeal and traffic are higher while cost and space requirements are lower, says LaserTron.

Retroview

Anecdotes from computer and videogaming's past

Virtual boy
of the '80s

One of the great myths about the videogame industry concerns the origins of the Vectrex, the 14-inch tall, stand-alone game console with a nine-inch vector monitor that appeared on the scene in 1982. According to the myth, an Asian businessman offered General Consumer Electronics (GCE) President Ed Krakauer a warehouse full of monitors that had been built for medical use at bargain prices while he was on a trip to Hong Kong. Krakauer, who supposedly bought the monitors for less than it cost to manufacture them, had no idea what he would do with them, so he hired engineers to design a game console around them.

Despite what an interesting bit of history this story makes, it's totally untrue.

Ed Krakauer, Lee Chaden, and Shelly Morrick founded GCE with

the idea that they would manufacture a game console with a built-in screen. There was no chance encounter in Hong Kong and no warehouse filled with cut-rate monitors. In fact, according to GCE's former marketing director, Hope Neiman, the real trick was finding a source that could provide inexpensive monitors.

Before GCE could manufacture and market the Vectrex, the company ran into funding problems. In hopes of finding a partner, Neiman flew to Massachusetts and presented the system to executives of Milton Bradley, the company that had recently made a fortune on a portable memory game called *Simon*.

We were going to have to get the cost of the unit down and probably lose money, which is what happens today, in order to get the hardware in people's hands. That was going to take a major investor. The industry was hot and the public markets were bad.

In the mid-'80s you couldn't go public and expect to achieve anything as far as a reasonable return on your investment. The industry was very hot and Ed was very well-connected, so we got a lot of interest. I presented before every major studio. I presented to all the major toy companies, venture capitalists, you name it. We probably did 50 presentations in the span of a month.

[The executives at] Milton Bradley felt they had really missed the boat on the business; after all, Mattel had become a major player with Intellivision. Their management

was somewhat stodgy and they sort of knew that this would be sort of a cool thing to do, but they weren't sure that they really wanted to do it.

They decided to buy the company. They initially bought the company, saying they were going to leave us alone because we had shown them that we were a success.

— Hope Neiman

The executives at Milton Bradley considered the people at GCE to be a bit too wild, so they sent one of their executives to assume the role of chief financial officer at GCE and keep an eye on their investment. According to Neiman, Milton Bradley's CFO

Unfortunately, Vectrex was unveiled the same year that the bottom dropped out of the market

became a "sandal-wearing" member of the GCE gang after only a few weeks.

Vectrex's nine-inch monitor was both its greatest strength and its biggest weakness. Parents liked it because it let the kids play games while the rest of the family watched television, and hard-core gamers liked the high resolution of the vector graphics. Less

educated gamers, however, saw the single-color graphics as a setback. To appease them, GCE borrowed a page from the Magnavox Odyssey, the world's first home videogame console, and created clear plastic overlays for players to place over their screens. These overlays added colors to parts of the screen, a trick that Cinematronics had used to add colors to the arcade version of *Star Castle* a few years earlier.

Vectrex benefited from having a young and dedicated group behind it. A game programmer named Jerry Carr, for instance, would forget about buying groceries and eating when he was working on games. Legend has it that he might have starved had the son of one of his old girlfriends not checked in on him periodically.

Milton Bradley unveiled the Vectrex at the winter Consumer Electronics Show in 1982 and began shipping it in October of that year. The system retailed for $199 and had an *Asteroids*-like game called *Mine Storm* burned into its circuits. Additional game cartridges sold for $30 to $40. The entire shipment sold out, grossing approximately $80 million.

Unfortunately, Vectrex was unveiled the same year that the bottom dropped out of the market. To try to consolidate expenses, Milton Bradley relocated GCE to Springfield, Massachusetts, but that wasn't enough. The toy manufacturer laid off workers and slowed production. Although the European version of Vectrex remained somewhat active sometime into 1985, the American version disappeared in 1983. Hasbro purchased Milton Bradley a few years later, and a Hasbro executive later commented that "they had to sell out because of all of the money they lost in the GCE deal."

Vectrex has re-emerged in the 1990s as one of the most desirable collector's items for retro-game fanatics. There's even a new Vectrex cartridge available over the Internet that has 70 games — 50 games more than the number GCE published while its console was still on the market.

by **Steven Kent**

A frequent contributor to **Next Generation**, Steven Kent is the author of a forthcoming book on the history of videogames

Obliterate the enemy from the high ground.

Tank battalions that respond to real 3-D terrain.

Defend your coastline from invasion.

Blast opposing forces into smoking 3-D segments.
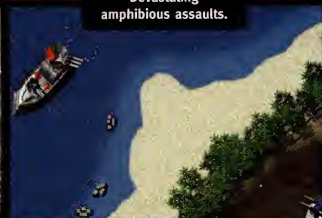
Bombard the enemy from the safety of the sea.

Devastating amphibious assaults.

Challenging landscapes, metal worlds and more!

Extensive multiplayer and internet support.

BESIDES DANGER
AND INTRIGUE,

TREASURES
OF THE DEEP

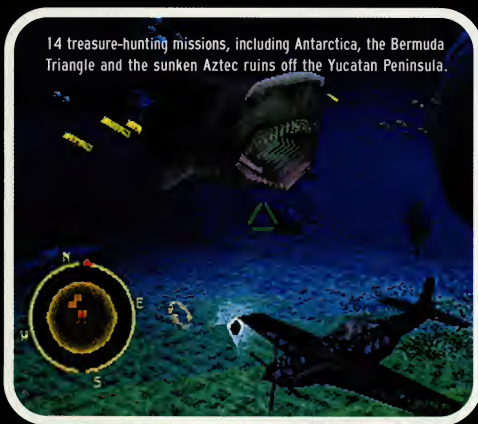OFFERS SOMETHING

THAT'S BEEN LACKING

IN ACTION/ADVENTURE

GAMES.

YOU'RE SERVING UP MASSIVE DESTRUCTION AND ROADKILL IS THE MAIN COURSE.

You'll cross over more than a few double yellow lines in this driving game of mass destruction. With limited time to reach your objective, you won't be waiting for any lights to turn green. Whoops! You forgot to knock before pummeling through a neighbor's living room window. Tact never was your strong suit.

Your weapon is your wheels. And, if you're good, real good, you'll get to drive up to 22 of 'em. Like a limo, a bad-ass pickup, a formula one racer, hell, even a tank if your hot-wiring skills are up to snuff.

Don't expect any citizen-of-the-month award. Expect spine-tingling action, hair-raising crashes and the never-seen-before track cam view.

PlayStation

KIDS TO ADULTS
K-A
ESRB

ASCII
ENTERTAINMENT

Where to play?
The dust settles

Every year, **Next Generation** casts a critical eye at the game hardware market, reporting on the state of the war and which system is the best value. This season, however, the results are surprising

The current generation of consoles is rapidly approaching middle age. Anyone still looking for new technical highs from the current crop of 32/64-bit consoles is likely to be disappointed. Though the manufacturers might have you believe otherwise, these consoles — with the possible exception of N64 — have already demonstrated their best visual pizzazz. This is not to suggest, in any way, that there are no more good games coming for the existing systems. Quite the contrary.

In fact, the current generation of consoles is at the point in the console life cycle when, historically, some of the best software is produced for them — developers have learned the systems intimately and can exploit them fully to create great games. It's also, unfortunately, the point at which we are made to endure an endless list of uninspired sequels and blatant rip-offs. However, the best developers lose interest in playing around with what a particular machine can do technologically and instead start focusing their efforts on designing creative gameplay. And until the top developers abandon the current systems for the next generation, we will see them doing their most impressive work — perhaps not

flashier than last season's offerings, but still better. And so for now, we look not to the hardware for our thrills, but squarely at the software. And it is here that we find some of the most thoroughly satisfying games ever produced.

And so how does the PC fit into all of this? Why, for that matter, in our annual console report, are we even including the PC at all? Simply put, the PC is operating at a different level entirely from the current consoles. A few years ago, the idea of playing a fast-action game on PC was ludicrous. This is no longer the case. In fact, with the right kind of setup, a PC looks better, sounds better, and plays better than any gaming-specific machine on the market.

Developers are taking full advantage of this new gaming powerhouse. With games as visually stunning as *G.Police* or technologically impressive as *Battlezone* demonstrating the high end of what PCs are truly capable of, it's no wonder so many gamers are now being drawn to the platform, whereas before they looked to Nintendo, Sega, or Sony.

It's important to note, though, that the current state of the PC is not unlike that of a new console — and most accelerator card makers are in fact eager to promote their cards as new gaming platforms — which means lots of flashy, visually exciting games, but doesn't necessarily mean good games. This is a crucial point. The 3Dfx logo on a game box is not a stamp of quality, it just tells you the game (probably) looks good running on 3Dfx hardware. The PC may be the best place to play games, but that doesn't mean the best games are coming for PC. Expect, in the rush to exploit the current and next generation of 3D cards, many PC games that look amazing and play terribly. From bland shooters to boring *Tomb Raider* clones, the PC may soon be a haven for art-driven efforts that are best avoided, with the occasional nugget of gameplay gold. Gamers will need to pay close attention and stay informed (may we humbly suggest by reading **Next Generation**) to ensure they're not taken in by games that offer little more than pretty graphics.

The current state of affairs is not by any means the end of the story for consoles or the PC. There is a new generation of consoles on the horizon with staggering hardware specs to dream about and a new generation of PC processors and 3D accelerators just waiting to be tested and exploited by gaming's brightest minds.

The year
in review

A look back at what 1997 meant to the world of videogames and what it signifies for the future

While '97 didn't see a new console, it did see established genres mature, as with *Fighter's Megamix* (left), and a scattering of innovative titles like *Monster Rancher* (right)

Throughout **Next Generation**'s history, we've covered some of the most exciting videogame developments ever. We've seen the birth of 3D gaming, the launch of a powerful new generation of consoles, unbelievable strides in the world of PC gaming, and the realization of some of the most innovative gameplay designs ever conceived. And we're happy to report that all indications suggest that what we've seen only begins to scratch the surface of what's to come. But what has the industry done for us lately?

This year has been a mixed blessing of sorts. It's been one without any new console launches, no major new genres established, and no massive surprises in the form of software releases (although we never thought Sony would release *PaRappa* in the U.S.). In many ways, the past year has been a real meat and potatoes affair — plenty of good titles on established hardware. But what's important to note is that meat and potatoes are a sign of stability that the industry is (temporarily) settling down to the really important stuff: making good games. It's from this solid foundation that exciting innovations spring forth. And they are coming.

But this past year was not without its own exciting moments. A crucial year for N64, Nintendo made huge strides in delivering on the promise of its 64-bit wonder machine. And although the library still may not be where many had hoped it would, titles like *Goldeneye* and *International Superstar Soccer* went a long way in proving the console was for real. At the same time, PlayStation

became the system of choice for innovative game designers and was the platform that gave us such original games as *PaRappa the Rapper* and *Monster Rancher*. Sega, meanwhile, proved that it was not willing to give up on Saturn yet and delivered such impressive efforts as a revamped *World Series Baseball* and *Fighters Megamix*.

But the brightest moments of the year past belonged to the PC. While there were some great titles released for PC in 1997, its real strides were in the potential of its hardware. The wholehearted acceptance of 3D acceleration through the outstanding efforts of companies like 3Dfx and PowerVR finally gave the PC the boost it needed to edge out its console competition and establish itself (for the time being, at least) as the premier gaming platform. And new graphic standards were only the beginning for the platform that also soared to new heights in the field of multiplayer gaming. TEN and Mplayer may not have found a profitable business model yet, but the success of multiplayer games like *Diablo*, *Quake*, and *Red Alert* should ensure that development will continue on pace in the online arena.

And so, when we look back at 1997, we'll not necessarily find the kind of landmark happenings witnessed in 1995 or 1996, with the release of PlayStation, Saturn, and Nintendo 64. But, and this is telling, there were more five star games released in 1997 than in either of the two previous years. The industry is stronger now than it has been since 1993, and that provides a solid foundation for 1998 to be an exciting year of innovation on the gameplay front.

Tech specs

Sony PlayStation

PERIPHERALS
Analog joystick
Controller
Memory card
Link cable
Mouse with pad
RFU adapter
S-Video adapter
Multitap unit

CPU
R3000A
32-bit RISC processor @ 33.8688MHz
Operating performance: 30MIPS
Instruction cache: 4KB
Data cache: 1KB
BUS: 132MB/sec.

CD-ROM DRIVE
Data Transfer Rate (DMA TO RAM):
    150KB/sec. (Normal)
    300KB/sec. (Double speed)
Maximum Capacity: 660MB
Features:
    Audio CD play
    XA Interactive Audio

GRAPHICAL CAPABILITY
NTSC display resolution:

Mode	Resolution (H x V)
0	256x480
1	320x480
2	384x480
3	512x480
4	640x480
(non-interlaced)	
5	256x480
6	320x480
7	384x480
8	512x480
9	640x480
(interlaced)	

COLOR DEPTH

Mode	Colors
4	16
8	256
15	32,768
24	16,777,216

All calculations are performed to 24-bit accuracy. Texture mapping color mode:
4-bit CLUT   (16 colors)
8-bit CLUT   (256)
15-bit direct   (32,768)

2D GRAPHICAL CAPABILITY
Sprite display capability:
1x1 pixels to 256x256 pixels

SPRITE SIZE BIT DEPTH

4-bit	8-bit	16-bit
8x8	40K	70K 110K
16x16	160K	280K
640K		

DATA DECOMPRESSION ENGINE (MDEC)
Operating performance: 80MIPS
Directly connected to CPU bus
Hardware video decompression

HARDWARE RENDERED POLYGONS (GPU)
Up to 360,000 polygons/sec.
Texture mapping
Flat or Gouraud shading

INPUT/OUTPUT SYSTEM OVERVIEW
Control pad
Two control pad connectors
Expandable with multitap connector
Backup RAM
Two removable cards
128KB flash memory
OS support for file save, retrieve, and remove
Serial Port I/O
Link cable connectivity

MEMORY CONFIGURATION
Main RAM: 2MB
Video RAM: 1MB
Sound RAM: 512KB
CD-ROM buffer: 32KB
OS ROM: 512KB

SOUND PROCESSOR
24 Channels
44.1KHz sample rate
PCM audio source
Digital effects include:
    Envelope
    Looping
    Digital Reverb
Supports MIDI instruments

SPRITE AND BACKGROUND GRAPHICS
Virtually unlimited:
Size (up to 256x256)
Number of sprites on a line
Number of sprite images
Number of CLUTs

SPRITE SPECIAL EFFECTS
Rotation
Scaling up/down
Warping
Transparency
Fading
Priority
Vertical line scroll
Horizontal line scroll
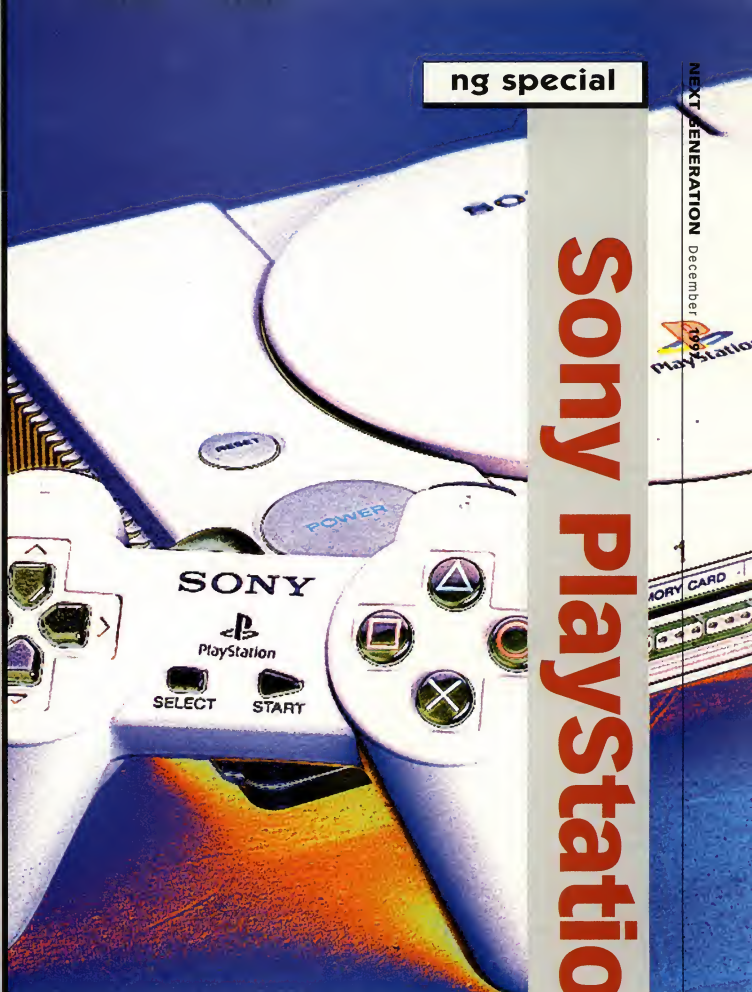
Launch Date: September 9, 1995
M.S.R.P.: $149
North American Installed Base: 5.1 million

Corporate status
Sony is sitting pretty this holiday season. PlayStation would not enjoy the status it has today as market leader without smart corporate management, and despite a period during which it seemed as though SCEA had a new president every other week, currently there is nothing to indicate this area of expertise has slackened. The company, no longer new to the world of videogames, continues to demonstrate a near-flawless understanding of what makes gamers happy. With essential components like marketing, third-party support, and seemingly endless funds firmly in place, Sony Computer Entertainment is in a position to continue to perform well.

Finally, the PlayStation's $149 price tag and new budget software collections directly address even the most casual consumer in the game market — the last level of consumer not yet fully supporting PlayStation. In short, it would be a bigger challenge for Sony and PlayStation to fail this holiday season than the other way around, even in the face of strong competition from the PC market and Nintendo 64.

The story so far
When rumors of Sony's intentions to join the videogame hardware market surfaced, many in the industry scoffed and expected the consumer electronics giant's efforts to

ng special

10 biggest games of this season

In the end, there's only one thing that matters when deciding where to play, and that's software. When trying to find a console with a solid library of games, there is no safer bet than PlayStation. The system currently enjoys the largest software library of any of the currently supported consoles — more than 300 titles in the U.S. alone — and many of this season's games are among the best the system has to offer, including Sony's *PaRappa the Rapper*, Capcom's *Resident Evil 2*, and Eidos' *Tomb Raider II*.

fail outright, joining such gaming footnotes as TurboGrafx from NEC and CD-i from Phillips. Traditional wisdom among industry pundits was that mainstream corporations could never understand the tricky, often fickle gaming public. "You've got to know games," they said, and Sony's reputation from the now-defunct Sony Imagesoft seemed certain proof that the company didn't know anything about games. Even with deep pockets, no one expected that Sony could muster the knowledge about what gamers really wanted (as opposed to what a big company with plenty of movie licenses wanted them to want). That illusion was about to be shattered.

By the time Sega made its panic-induced surprise release of Saturn in May of '95, however, word was out from Japan that PlayStation was for real, and legions of die-hard Nintendo and Sega fans who would have happily tattooed their favorite company's logo on their chests just a few months earlier were now preordering their PlayStations. Ken Kutaragi's vision of a machine that could be a cheap 3D synthesizer, combined with the money to secure exclusive development deals as the company ramped up first-party efforts and an absolutely killer marketing plan, made Sony and PlayStation more successful in its first week than NEC or Phillips had ever been. By September 11, 1995, Sony was in the North American videogame industry in a big way.

Following that incredibly successful launch, Sony went on to make the most of an ever-maturing third-party development community, all the while playing to its own strengths as a marketing powerhouse. And along the way, the company even managed to come into its own as a developer. Creating a first-class sports lineup (one good enough to steal much of EA's market share) was its first initiative. Sony then went on to produce strong titles like *Jet Moto* and *Wild Arms*. Benefiting from Sony's easy-to-use development libraries and PlayStation's raw pixel-pushing power, third parties introduced popular titles like *Tekken 2* and *Tomb Raider* at an

astonishing pace. But perhaps Sony's finest contribution, and it comes as a direct result of PlayStation's success, is as a platform where innovative developers can find a place for their games. Original titles like *Tail of the Sun*, *Carnage Heart*, *Monster Rancher*, and Sony's own *PaRappa the Rapper* would have never found a place in the console market before Sony.

And so it has been for more than two years in the U.S. and world markets alike. SCE has cultivated and maintained a loyal audience of PlayStation fans. And though it has yet to develop the same kind of fanatic, almost cultlike devotion that Nintendo and Sega had before it, the numbers speak for themselves, and with a current worldwide installed base nearing 20 million, there is no logical argument to suggest that PlayStation is anything less than the current top of the videogame heap.

Marketing muscle

Sony knows marketing. The success of PlayStation, in fact, is clearly due at least as much to Sony's careful, often clever handling of the system's image as it is to the system's actual power. Beyond Sony's knowledge of this invaluable skill, Sony can easily afford any marketing avenue it sees fit. If that means running TV commercials during the Super Bowl or creating huge direct mail campaigns, so be it. In fact, this year Sony has doubled last year's spending, throwing $100 million toward holiday marketing, and finds itself working again with advertising agency Chiat Day, the same agency responsible for the ads behind what many consider the most successful launch of any console in gaming history. So what does that mean for Sony in the holiday season of '97? It means an even bigger push for PlayStation than last year's marketing blitz — a push that will provide major support for fifteen titles in total. As opposed to Sega, who will be looking for ways to fully exploit Saturn's final holiday season as that company's premier platform, Sony is depending on PlayStation to carry it through at least one more full year, so it needs to continue growing its installed base. To do this, it

must convince gamers that PlayStation is not yet tapped out technologically and that the games coming out in the near future are the best yet for the system. This year's tag line (borrowed from Sony Europe): "Never underestimate the power of PlayStation."

Among the first drive titles for this season, *GameDay '98* and of course, *Final Fantasy VII* will be promoted in print and on television. Sony is trying to establish its football game as the choice of real NFL team members. Beyond this credibility-bolstering technique, the commercials are also highlighting the move to 3D players in the game, a first for the series and a move that further emphasizes the point that PlayStation is still a system with more to give. Also along these lines, the ad campaign for *Final Fantasy VII* features nothing except masterfully rendered sequences from the game, showing that PlayStation is fully capable of delivering lush graphics (the ads don't, of course, mention that the graphics are prerendered). Other titles due to receive TV and print support are: *NHL Face Off '98*, *CART World Series*, *Bushido Blade*, *Crash Bandicoot 2*, *Cool Boarders 2*, and several more.

But perhaps what Sony does best in its marketing, which consumers can expect to see emphasized in ad campaigns again this year, is to create a mystique around PlayStation itself, attracting consumers that might not otherwise have been interested in videogames at all. The "cool" factor that Sega created for Genesis is nothing compared to the buzz Sony has created around PlayStation. This strength will be more important than ever this year; Sony already has market saturation among the hard-core, older, earlier adopters it targeted at the system's launch. The youth market is a big part of Sony's holiday plans this year, specifically, the more than 15 million households with kids under 12 — traditional Nintendo territory. And so, once again, we are set to witness the sheer marketing muscle that is Sony, and again the industry will see a big part of the reason Sony was not afraid to enter the videogame wars more than two years ago.

Castlevania: Symphony of the Night

Publisher: Konami
Developer: Konami
Release Date: Out now

A return to the classic gameplay of the *Castlevania* series, *Symphony* is a masterpiece of side-scrolling action. With an almost complete abandonment of 2D gameplay, this thoughtful action/adventure is more than just a reminder of days gone by, but a wake-up call to those who have forgotten what tight, 2D gameplay was all about.


Crash Bandicoot 2

Publisher: SCEA
Developer: Naughty Dog
Release Date: Out now

Crash Bandicoot was among the best-selling titles ever released for PlayStation, and all indications point to the sequel being a marked improvement over the original. The game still features all of the classic gameplay found in the original, along with a long list of new and innovative touches, including a unique jet pack level and seamless level blending, where the original featured awkward breaks in action.

Final Fantasy VII

Publisher: SCEA
Developer: Square
Release Date: Out now

Square's mammoth RPG effort dwarfs all others in the genre in visual impact. But the game doesn't stop there, as it also features a complex and compelling storyline specifically designed to appeal to a slightly older and more mature audience than most RPGs. With Sony's marketing push behind *FFVII* and the game already shattering sales records, there is little doubt that this will be one of the hottest items this season.
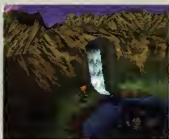
GameDay '98

Publisher: SCEA
Developer: Sony Interactive
Release Date: Out now

A remarkable upgrade from last year's already excellent offering, *GameDay '98* has finally cracked the polygon barrier with its players in a way that no other football series has yet to successfully master, and it still found a way to offer deep and fast gameplay. The clear leader in the football category again, *GameDay '98* is a blessing to all sports fans with a PlayStation.

Metal Gear Solid

Publisher: Konami
Developer: Konami
Release Date: Q1

Metal Gear Solid is probably the most exciting game in the works for PlayStation. Outstanding graphics, combined with some of the most innovative action/ adventure gameplay available on any system should make this game an absolute must-have for all PlayStation owners. In fact, *Metal Gear Salid* looks as if it will be a good enough reason all by itself to buy a PlayStation this season.
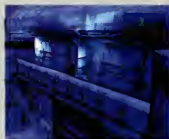
PaRappa the Rapper

Publisher: SCEA
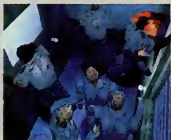Developer: SCEI
Release Date: Out now

Players assume the role of PaRappa the Rapper, a hip-hop canine out to win the heart of his dream girl, Sunny Funny. The gameplay, highly reminiscent of the classic toy Simon, flows through a series of animated scenes wherein PaRappa must rap his way through sticky situations. The challenges that await him are getting his driver's license, baking a birthday cake, and waiting in line to use a dirty toilet. Strange and short, but totally fun.

Resident Evil 2

Publisher: Capcom
Developer: Capcom
Release Date: Q1

Outside of *Tomb Raider 2*, this is probably the most eagerly anticipated game for the system. After suffering several delays, this adventure/horror game is everything the original was and more. Expect more zombies, deadlier weapons, and bigger playing fields. Against tough competition in the form of *Tomb Raider 2* and *Metal Gear Salid*, *Resident Evil 2* will have to be something special to make the same kind of impact as the original, but hopefully all the extra development time will ensure this is true.

Time Crisis

Publisher: Namco
Developer: Namco
Release Date: Out now

Based on Namco's innovative arcade light gun shooter, *Time Crisis* not only features level after level of first-class shooting action, but also comes with its own custom gun to accommodate the unique gameplay requirements. To differentiate the game from other light gun shooters, Namco has given the player control over the pace of the game and allows for hiding behind obstacles for strategic battling. One of the few arcade ports for PlayStation this season, *Time Crisis* is an important offering.

Tomb Raider II

Publisher: Eidos
Developer: Core
Release Date: Out now

One of the most eagerly awaited sequels of the year, *Tomb Raider II* finds Lara in the middle of yet another, even more challenging adventure. Added to the mix are new weapons, more human enemies, and new physical skills. This *Tomb Raider* sequel may well prove more important to PlayStation than the first game because it's not available on any other console (although rumors of some kind of Lara Croft adventure on N64 have recently resurfaced).

Treasures of the Deep

Publisher: Namco
Developer: Black Ops
Release Date: Out now

Thanks to its stunning water effects and unique adventure gameplay, Namco picked up this title from *Agile Warrior* developer Black Ops. *Treasures of the Deep* is arguably the finest underwater action/ adventure yet. Players must explore shipwrecks, underwater caves, and the wide-open sea floor to complete levels based in exotic locations around the world while battling vicious sea life and other less native enemies.

Conclusion

When it was introduced two years ago, PlayStation was the most powerful gaming system on the planet. That's not true anymore, but the holiday season of '97 finds Sony's PlayStation in as strong a place as it could possibly hope to be. The immediate future of PlayStation is one that will include more than a few good games, but despite Sony's desire to continue to push PlayStation for as long as possible, sometime in 1998 it will have to address how to keep PlayStation's momentum up, especially as competitors like Sega reveal their future plans. With the unbelievable standards currently being set on PC, neither gamers nor developers are likely to be impressed for much longer by a machine that was designed more than three years ago and suffers from serious technological limits by today's standards. Despite those limits, however, publishers will remain eager to exploit the console's huge installed base, and because of that we have seen anything but the final page in the PlayStation book.

And so is this the year to buy a PlayStation? There are far more powerful consoles on the horizon, and PC games are already leaps and bounds beyond what's possible on PlayStation, but the system's huge library of good games (with many more to come) continues to make PlayStation an excellent choice.

Current Rating

Demonstrated hardware power ★★★

Current software library ★★★ 1/2

Future software prognosis ★★★

Marketing muscle ★★★★★

Overall future prognosis ★★★

Final score ★★★ 1/2

This time last year

Demonstrated hardware power ★★★1/2

Current software library ★★★1/2

Future software prognosis ★★★1/2

Marketing muscle ★★★★

Overall future prognosis ★★★★

Final score ★★★★

Pull off radical stunts
or eat asphalt!

Manners are
for mailmen -
kill pedestrians!

better shred than dead!

one psycho cyclist.
250 extreme errands.
a whole city of hurt.

Catch big air. Earn cash.
Buy better bikes.

COURIER
CRISIS

EXCLUSIVELY FEATURING

GT
Bicycles

Tech specs

PERIPHERALS
Digital/Analog control pad (in seven colors)
64DD magnetic media drive (planned for 1998 release)
RFU adapter
S-Video adapter
Memory cart

CPU
64-bit MIPS R4300 RISC CPU @ 93.75MHz
64-bit registers, data path, and buffer
125 MIPS for CPU
64-Bit RISC "Reality Immersion" graphics co-processor @ 62.5MHz
Rendering processor: Textures, anti-aliasing, rasterizing, z-buffering
Audio and video processor: 100+ MFLOPS for graphics co-processor

2D GRAPHICAL CAPABILITY
256x224 to 640x480, 21-bit color output
32-bit RGBA pixel color frame buffer

MEMORY CONFIGURATION
4MB RAM, internal data bus is 12B bits wide
"Rambus" DRAM subsystem enabling transfers of up to 562.5MB/sec.
8-bit "Rambus" bus @ 500MHz maximum

SOUND PROCESSOR
Up to 16-bit stereo @ 44.1KHz (CD quality)
ADPCM compression algorithm
Up to 100 PCM channels

GEOMETRY ENGINE
Capable of calculating approximately 160,000 rectangular polygons/second with hardware features enabled.
Hardware support for:
Texture mapping
Detail texturing

Tri-linear mip-map interpolation
Perspective correction
Depth buffering
Shading
Z-buffering
Skewing
Scaling
Rotation
Anti-aliasing
Gouraud shading
Alpha-channeling (256 levels max)
"Level of Detail" (LOD) management

SPRITE SPECIAL EFFECTS
Scaling
Rotation
Anti-aliasing
Alpha channeling (up to 256 levels)

64DD SPECIFICATIONS
Magnetic media with read and write capability
3 3/4" feed similar to a Zip drive
Bundled with 2MB expansion RAM pack that fits the Nintendo 64 console
To be manufactured by ALPS

TRANSFER RATE AND SEEK TIME
1 MB/sec. data transfer, 150ms seek time

MEDIA
64MB disk storage, 44MB read-only, 20MB writable
Compression of Nintendo 64 enables supposed realtime decompression of data on 64DD

Nintendo 64

Launch Date: September 31, 1996
M.S.R.P.: $149
North American Installed Base: 3.5 million

Corporate status

Ten years ago, Nintendo *was* videogames. The company had a better than 98% market share worldwide with NES, and its two competitors, Atari and Sega, may as well have not existed. The company had single-handedly revived a moribund market and seemed to launch vastly profitable new franchises — *Mario*, *Zelda*, *Metroid* — every few months. Those were the good old days for the company, and while Nintendo has never been far from the top, not since those 8-bit days has it enjoyed such complete rule over the industry.

The Super NES was by all measures a huge success, but it had to share the market with Sega's hipper Genesis. Nintendo 64 shattered initial sales figures at launch, but Sony continues to have the lead in the market despite its less impressive tech specs, and it is unlikely, to put it mildly, that Nintendo 64 will ever enjoy the kind of market penetration that NES had. Nintendo has been very rigid in its marketing strategies, refusing to play the game by anyone's rules but its own — an admirable approach, but at times a costly one in the face of competition from companies ready

and willing to capitalize on popular trends.

The company's biggest concern right now, though, must be Nintendo 64's lackluster performance in markets other than the U.S., including its home base of Japan. While Nintendo claims more than 3.5 million Nintendo 64 units sold in North America (a number that still finds it approximately one million units behind PlayStation), it has yet to break the seven million threshold worldwide, leaving only approximately three million units sold in Europe and Japan combined. This is a situation that has to change if Nintendo really hopes to make a long-term impact with Nintendo 64. But, characteristic of Nintendo, there have been no visible signs of panic, and the company that practically gave birth to the market as we know it today is continuing on its carefully plotted path. Nintendo, with billions of dollars in the bank, has always been able to take the long view, and its strategy with Nintendo 64 is no exception.

The story so far

Nintendo 64, developed collaboratively between Silicon Graphics and Nintendo, promised to bring the massive 3D power of the

ng special

10 biggest games of this season

A limited software library has been the problem that has dogged Nintendo 64 since its launch more than a year ago and continues to be a problem today. But fortunately, Nintendo is nearing that critical point in its support of Nintendo 64 when there will actually be a variety of quality titles to choose from. This is, of course, a situation that's only going to get better with time, and this holiday season will play a big part in the maturing of the system's library. Among the quality titles due out in the next couple of months are *Banjo Kazooie*, *Diddy Kong Racing*, and *Zelda 64*.

Silicon Graphics' Reality Engine 3D chip to the home. Originally dubbed "Project Reality," and then for several months "Ultra 64," the 64-bit machine from Nintendo, with powerful graphics capabilities and an innovative analog controller was anxiously awaited by gamers. In September of '96, after close to a year of embarrassing delays, Nintendo 64 finally made its appearance in the U.S., along with Shigeru Miyamoto's masterpiece, *Mario 64*. Chaos quickly ensued. Along with a vibrating muppet named Elmo, Nintendo 64 — despite the lack of software (less than 10 games were available by December) — became the hottest gift of the season. Although some cynically suggested that the shortage of Nintendo 64s might not have been entirely unplanned, the lack of available hardware units ensured plenty of coverage in the popular press. Nintendo itself announced that Nintendo 64 was the Cabbage Patch doll of the season.

But Christmas comes only once a year, and the first few months of 1997 saw Nintendo 64 enter a doldrums that left many wondering if the system's success would prove to be short-lived. Beyond *Mario* and *Wave Race*, the software release schedule seemed to fulfill only the first half of Nintendo's promise of fewer, but better games. *Mario Kart 64* was good, but not great — the cheating AI in the game didn't do much for replay value. And *StarFox 64*, while fun, didn't exactly make up for *Cruisn' USA*. E3 was another disappointment, with no sign of the eagerly awaited *Zelda 64*, *Metroid 64*, or *F-Zero 64*. Instead, gamers were shown two new titles by Rare, *Conker's Quest* and *Banjo Kazooie*, that seemed disquietingly close to *Mario 64*. How close the games are to *Mario*, though, won't be discovered this Christmas because they've both (along with *Ken Griffey Baseball*), slipped into 1998. Instead, in late summer, Nintendo announced a surprise new title from Rare, *Diddy Kong Racing*, to replace *Banjo* in the holiday lineup. It may be the best game ever, but does a system with fewer than 40 games really need two cart racing titles?

Despite the hits Nintendo has taken over the lack of software, sales of available Nintendo 64 titles have been consistently stellar, seemingly regardless of the games'

quality. In fact, the company is making a fortune off Nintendo 64. And Nintendo has taken the view that any software shortage is a momentary hiccup. Many third parties were leery of developing for Nintendo 64 when it was released, fearing they couldn't make money developing for cartridges, but that attitude is changing, and the software situation in 1998 will certainly be better than it was in 1997. While the company may not have much to show this holiday season — *Diddy Kong* is no *Mario* — the third parties appear to finally be taking up the slack. *San Francisco Rush* from Midway is looking fantastic, as are *Multi Racing Championship* from Ocean, *ISS Soccer* from Konami, *Quarterback Club* and *Extreme G* from Acclaim, and *Madden* from EA. All appear to have what it takes to make sure Nintendo gives Sony a serious run for its money this holiday season.

Marketing muscle

Nintendo's marketing has never appealed to many hard-core gamers (or, as near as we can tell, anyone else). While the company's marketing department is adept at scoring deals with Kellogg's or Taco Bell, the advertising directed at gamers has always done best when it simply lets its games speak for themselves. As Sega mastered advertising with attitude, managing to portray Super NES as a toy, Nintendo tried to modernize its approach. By most counts it failed miserably. The "Play It Loud" campaign featuring dancing fat men did little for anyone, while the pathetic efforts featuring Virtual Boy are best politely forgotten. We'll also draw a veil of charity over the "Who Needs a New System?" campaign, which was followed closely by the "Change the System" campaign. The comarketing deals are great for brand recognition (as is Nintendo's outstanding ability to get coverage in the popular press), but when Nintendo has something good to sell, it generally just lets it sell on its own merits — more often despite, rather than because of Nintendo's marketing.

in many ways, this holiday season may be more important than ever for Nintendo to get the word out. After the frenzy created by

N64 last Christmas, a scenario Nintendo used to quickly generate a formidable installed base, the company has created a tall challenge for itself this year. To keep up the system's sales momentum, Nintendo will have to convince consumers that its machine was not a one-season wonder, especially among casual gamers. (Does anyone still want Tickle Me Elmo this year?) With a $90 million fourth-quarter marketing budget (the biggest quarter of a $200 million year), the word will definitely be out.

The way Nintendo will do this, as it has done since the launch of Nintendo 64, is by letting the visual impact of the system's advanced graphics speak for itself, all the while advertising the quality of the games. The first commercial push, for example, is the Rare-developed game *Goldeneye*, which features a seamless mix of gameplay and movie footage. As opposed to most game commercials, however, the emphasis is on gameplay, not movie footage. Similar to the approach taken in its television campaign, Nintendo's print campaign is characteristically clean and lacking in any discernible "edge" — not a bad thing, especially considering how tired most "edgy" campaigns are looking these days. This was the same approach Nintendo used to perfection with last year's hit titles, *Mario 64* and *WaveRace 64*, and it will likely have a similar effect this season. The only potential problem with using this approach yet again is the danger of appealing only to the same audience it reached last year and not the broader user base Nintendo must attract to grow its installed hardware base.

What will have the biggest effect on Nintendo's marketing campaign this season, however, are the titles it actually manages to have ready for release. By recently conceding to the public that highly anticipated, key titles will in fact not be ready for the holidays, Nintendo is now forced to back the lesser-known and perhaps less impressive *Diddy Kong Racing* as its premier title for the season. Committing $20 million to the project, this very *Mario Kart*-esque game from Rare will have to be raised to a new level of importance to get consumers excited about the system all over again.

Banjo Kazooie

Publisher: Nintendo
Developer: Rare
Release Date: Q1

One of two new action/
adventure games revealed at
this year's E3, *Banjo Kazooie*
is highly reminiscent of *Mario
64* in both appearance and
gameplay. But it is exactly
this kind of fantasy-based
adventure on which Nintendo
has built its glowing heritage.
So there may not be any
machine-gun fire or
decapitations in *Banjo
Kazooie*, but there may be
the kind of solid, lighthearted
action/adventure gameplay
for which Ninentendo is known.

Conker's Quest

Publisher: Nintendo
Developer: Rare
Release Date: Q1

Canker's Quest was Rare's
other action/adventure game
at this year's E3 and also
features a world highly
reminiscent of *Mario 64*. One
might ask if two such similar
titles are desirable, but one of
the characters in this game is
a female squirrel who gives
clues through the use of facial
expressions. This emotion-
based approach is popular
among designers looking to
attract female players, and
may well be the motivation
behind *Conker's Quest.*

Diddy Kong Racing

Publisher: Nintendo
Developer: Rare
Release Date: Out now

Another in a growing list of
cutesy titles due out for
Nintendo 64, *Diddy Kong
Racing* picks up where *Mario
Kort* left off. Like *Mario Kort*,
Diddy Kong Racing cannot be
described as a serious racing
game, but it does offer players
a list of unique options like
racing in planes and
hovercrafts. As a nice follow-
up to *Mario Kort*, *Diddy Kong
Racing* may not set the world
on fire with excitement, but it
could still be fun.

Extreme G

Publisher: Acclaim
Developer: Probe
Release Date: Out now

Featuring a different look from
most Nintendo 64 titles,
Extreme G does not follow the
"cuter is better" philosophy of
Nintendo first-party games.
Instead, the designers of this
high-speed racing game took
advantage of the system's
awesome graphic capabilities
by creating a futuristic world
filled with harrowing tracks
and high-tech vehicles. With
Psygnosis' *Wipeaut* series not
making the jump to N64 (yet,
anyway), *Extreme G* may well
be the next best thing.

F-Zero 64

Publisher: Nintendo
Developer: Nintendo
Release Date: Q1

F-Zero 64, featuring
hovercrafts racing along
narrow strips of twisting
track, promises to be a
fast-action, futuristic
racing game. The original
Super NES game was a
surprisingly popular and
critical success, one which
Nintendo will, no doubt, be
hoping to duplicate.
Certainly this is
Nintendo's best chance to
demonstrate the potential
of graphic variety on N64
since *Star Fox 64*.

Goldeneye

Publisher: Nintendo
Developer: Rare
Release Date: Out now

Originally predicted by
many to be another in a
long list of derivative first-
person shooters,
Goldeneye has proved to
be much more and should
top any Nintendo 64
shopper's buying list this
season (if, in fact, it hasn't
already been bought). A
perfect example of Rare's
ability to deliver greatness,
Goldeneye not only
represents the best first-
person shooter on the
system, it's also one of the
strongest movie-licensed
games ever made.

Quarterback Club

Publisher: Acclaim
Developer: Iguana
Release Date: Out now

The first Nintendo 64 game
to take full advantage of the
system's high-resolution
mode, Acclaim's
Quorterbock Club is a sight
to behold on Nintendo 64.
The *Quorterbock Club* series
has been getting
consistently better with
each passing season,
threatening the big boys in
videogame football
(*Modden* and *GomeDoy*) a
little more each year, and
the N64 version is sure to
represent the very latest
advancements in the series.

San Francisco Rush

Publisher: Midway
Developer: Atari Games
Release Date: Out now

Originally developed for the
arcade by Atari Games, *San
Froncisca Rush* on Nintendo
64 is easily one of the best
racing games due out for any
system this year. Featuring
four additional tracks on top
of those ported over from the
arcade, this high-speed thrill
ride gives gamers a chance
to drive through some of San
Francisco's most challenging
hills and curves. When
combined with the Nintendo
64 Rumble Pack, *Son
Francisco Rush* just gets
even better.

Yoshi's Story 64

Publisher: Nintendo
Developer: Nintendo
Release Date: Q1

Another in a series of 64-bit
updates of Super NES
games, *Yoshi's Story 64* will
demonstrate the
underutilized 2D potential of
Nintendo 64. In a world
that's gone 3D crazy,
Nintendo has decided to
maintain the side-scrolling
integrity of the *Yoshi* series
despite that it has already
proved itself a champion of
the 3D action/adventure.
Look for *Yoshi's Story 64* to
revisit many of Nintendo's
classic 2D gameplay
techniques in a beautiful
new setting.
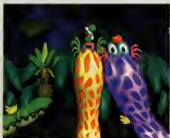
Zelda 64

Publisher: Nintendo
Developer: Nintendo
Release Date: Q1

There is little to say about
Zelda 64 except that it
represents the best efforts
of Nintendo's best minds. If
there was a game meant to
prove definitively that
Nintendo 64 is for real, it's
Zeldo 64 (which makes the
game's long, well-
publicized delays even
more painful). This 64-bit
update of one of Nintendo's
most popular series
features lush, 3D
environments and all the
trademark gameplay
quality that comes along
with an AAA Nintendo title.

Conclusion

The brightest days may still be ahead for Nintendo 64. Certainly we have yet to witness the full potential of the hardware, and with important titles like *Zelda 64* currently in development, Nintendo 64 may well be the only console on the market worth buying for gamers looking for cutting-edge technological thrills. However, at the moment, Nintendo has some serious issues to work out if its console is to rise to the heights initially promised. Much like Sega's problem with Saturn (although for entirely different reasons), Nintendo has yet to find a way to court proper third-party support. As long as companies are still thinking of PlayStation first for hit titles like *Tomb Raider 2* and *Resident Evil 2*, gamers will be forced to look to PlayStation for the games they really want to play.

Another concern for Nintendo 64 is that since it was released so long after PlayStation and Saturn, it is effectively on a different life-cycle schedule from the other major players. Sure, Nintendo 64 looks impressive by today's standards, but how excited will consumers be next year when Sega has a far more powerful system out on the market and Sony is preparing to release one as well? By beating Nintendo to market, other companies have a strategic advantage over Nintendo 64, despite the fact that Nintendo 64 is probably powerful enough to compete with Sega and Sony's next generation machines, at least in the short run.

So how smart would it be to buy a Nintendo 64 this year? Depending on your taste in games, it could be a very smart move. Anyone who knows games knows Nintendo is about quality, and quality is never a gamble. But what has to be considered is that Nintendo 64 will probably never have the third-party support that PlayStation (or even Saturn at its peak) enjoys and will always be aimed at a younger crowd than competing systems. For some, these drawbacks are more than outweighed by the amazing games Nintendo will deliver for the system. For these gamers, Nintendo 64 is a can't-miss proposition. For the rest, it's a system to be approached with caution.

Current Rating

Demonstrated hardware power ★★★★

Current software library ★★★

Future software prognosis ★★★1/2

Marketing muscle ★★★

Overall future prognosis ★★★1/2

Final score ★★★1/2

This time last year

Demonstrated hardware power ★★★★1/2

Current software library ★★

Future software prognosis ★★★★

Marketing muscle ★★★

Overall future prognosis ★★★★

Final score ★★★★

Sega Saturn

Tech specs

PERIPHERALS
Analog mission joystick
Arcade racer analog
        steering controller
Analog/digital switchable
        controller
Analog joypad
Memory backup cart
Link cable (Japan)
Mouse with pad
Keyboard
NetLink modem
RFU adapter
S-Video adapter
Multitap unit

CPUs
2 Hitachi 32-bit RISC SH2s
        @ 28MHz
1 Hitachi 32-bit SH1

CD-ROM DRIVE
Data transfer rate:
        150KB/sec.
                (Normal)
        300KB/sec.
                (Double speed)
Maximum Capacity:
        660MB
Features:
        Audio CD
                w/reactive
                display
        CD+G compatible
        CD+EG compatible
        CD single
                compatible
        Photo CD
        Video CD
        EBook

2D GRAPHICAL
CAPABILITY
VDP1 processor handles:
        sprites
        polygons
        geometry
VDP2 processor handles:
        backgrounds
        5 simultaneous
                planes (with
                two rotation
                planes)
        32,000 colors from
                24-bit palette

NTSC display resolution
352x224
640x224
704x480

MEMORY
CONFIGURATION
Main RAM: 2MB video
RAM: 1.54MB
Sound RAM: 540KB CD
ROM buffer: 512KB

SOUND
PROCESSOR
16-bit Yamaha 68EC000 @
        113MHz
32 voices
FM synthesis
2 CPU interfaces

44.1KHz sampling
        frequency
16 channel digital mixer

SCSP 128 step DSP @
        22.6MHz

GEOMETRY
ENGINE
Supplied by VDP 1:
Texture mapping
Gouraud shading
512K cache for textures
200,000 texture-mapped
        polys/sec
500,000 flat shaded
        polys/sec

SPRITE
GRAPHICS
Supplied by VDP 1:
Dual 256K frame buffers
        for rotation and
        scaling
Virtually unlimited
        number of sprites
        on a line
Virtually unlimited
        number of sprite
        images
Virtually unlimited
        number of CLUTs

SPRITE
SPECIAL EFFECTS
Supplied by VDP 1:
Rotation
Scaling up/down
Warping
Vertical and horizontal
        line scroll

BACKGROUND
AND SCROLL
PLANES
Supplied by VDP 2:
Background engine
Up to five simultaneous
        scrolling
        backgrounds
Up to two simultaneous
        rotating playfields
True 24-bit backgrounds
704x480 maximum
        resolution

Launch Date: May 10, 1995
M.S.R.P.: $149
North American Installed Base: 1.6 million

Corporate status

Sega is at a critical point. After a seemingly endless series of blunders, the one-time console leader finds itself a distant third among the current generation of game consoles, a situation that is not likely to change despite positive efforts in software development. And yet Sega is a company seemingly well-suited for a rally, not with Saturn but with the console it currently has under devlopment, the next generation platform code named Dural. The ingredients for the potential rally? Stronger corporate management (many members of whom are coming from Sony's camp, including COO Bernie Stollar and vice president of product development, Shuji Utsumi), corporate alliances with the likes of NEC and Microsoft, and finally, a better sense of the 3D-hungry market. Although Sega's hand may be forced once again into moving first into the next generation race, a respectable history of support for Saturn has regained the faith of many gamers shaken by the company's 32X and Sega CD debacles. And the early information leaking out about Dural's specs makes it difficult for most gamers not to be excited about what Sega may have coming.

The story so far

Saturn was never really cut out for its competition. Originally planned as the ultimate 2D system — a replacement for the aging Genesis towards the end of the 16-bit era — 3D support was added at high cost after the company learned of Sony's plans. Launched early in the U.S., in what was correctly seen as a panicked response to PlayStation's impending release, with a discouraging price tag of $399 and a limited library of solid titles, the machine's head start in the 32-bit race proved ineffective against Sony.

Indeed, Saturn was forced to play second fiddle to PlayStation from the very start, a point only underscored by the two systems' competing 3D brawlers: a rushed and graphically ugly port of *Virtua Fighter* for Saturn versus a visually stunning (if ultimately less deep) *Battle Arena Toshinden* from Takara for PlayStation. The disparity in sales between the two consoles only grew worse with time. Saturn continued to sell well in Japan, where key titles like *Virtua Fighter* and *Daytona U.S.A.* had more impact, but sales in the U.S. were not as encouraging. Second place status and difficulty in programming Saturn's dual-

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ng special

10 biggest games of this season

While PlayStation offers a larger library of solid titles from the third-party community, Saturn is, much like N64, a machine used to show the software development talent of the manufacturer. Among all the good titles on the system, it could be argued that 90% are from Sega, and this will certainly be the case in the months to come as third-party developers continue to abandon the system. Among the strong first-party titles due out in the next few months are *Sonic R*, *Panzer Dragoon Saga*, and the intriguing *Burning Rangers*.

processor system also hurt third-party support drastically. The company's 1995 holiday software assault in the form of *Sega Rally*, *Virtua Fighter 2*, *Virtua Cop*, and *World Series Baseball* was impressive, but while it propelled sales to a respectable level, it proved too little too late for any major change in Sega's race to become market leader.

Throughout 1996, the system continued to host strong arcade ports from Sega's AM divisions, including such titles as *Fighting Vipers*, *Virtua Cop 2*, *Daytona U.S.A. Championship Circuit Edition*, and *Virtual On*. The arcade wasn't the only source for good games on Saturn, as Yuji Naka's *Nights* proved to be one of 1996's most innovative and well-received titles. While the system never again had AAA games in such volume throughout the year as it did during its first holiday season, strong software from Sega kept coming, and Sega fans (many of whom had been lost during the 32X debacle) started to come back to Saturn. They even boasted of it as the "gamers machine," as opposed to Sony's more popular PlayStation. What didn't come back to Sega were third-party developers, which, despite vast improvements in the system's libraries and the introduction of a potentially interesting NetLink modem, looked at its pitiful installed base outside Japan and abandoned the system in droves.

Then in late '96 came Nintendo 64, a system with an undeniable technical edge on Saturn and the backing of one of the greatest software houses ever established. Even with its small software library and limited third-party support, N64 overtook Saturn in the U.S. in less than three months. Throughout '97, even good software in the form of *Fighters Megamix* — arguably the best, although not the prettiest, fighting game ever released on console — and strong sports updates like *World Series Baseball* failed to make much impact against N64 and Mario.

In many ways, Saturn was doomed from the start — too expensive, too difficult to program for, and launched amid a clearly illogical, if not outright insane, strategy by Sega to market Saturn, Genesis, 32X, and

Sega CD simultaneously. However, over the life span of Saturn, Sega always managed to put out a reasonably steady stream of good games on the system. Even now, in the midst of Saturn's third (and probably last) season as the company's premier console, Sega continues to support its system well with strong software like *Burning Rangers* and *Panzer Dragoon Saga*. The road for Saturn has not been an easy one, but it seems determined to finish the race with its head held high.

Marketing muscle

Despite the fact that Saturn is closing in on its final days, it's extremely important for the company to sell as many machines as possible this holiday season, if for no other reason than to clear out inventory (although using revenue from holiday software sales to stem the tide of red ink at Sega of America is also high on the list). How do you market a dying system? Focus on its few remaining strengths. Those strengths, according to Sega's marketing team, are in its "strongest lineup of Saturn titles yet." Known for its one-time dominance in the world of television advertising, Sega lost its edge last year with a rather me-too "shock" ad campaign that saw the return of the "Sega Scream" (a feature not found in this year's campaign), and made itself look as if it was simply out of fresh ideas. This year Sega turns to advertising agency Foote, Cone and Belding, known for its work with Levi's, among others, for help in recovering its image as a leading-edge videogame company. With $25 million behind the campaign, Foote, Cone and Belding's mission will be to help build energy for the overall Sega brand, not just Saturn — clearly paving the way for the introduction of the Dural system, possibly as early as late 1998.

Despite a heavy focus on print advertising in specialist press, Sega will once again look to the world of television and nongaming magazines like *Details*, *Thrasher*, and *Raygun* to promote Saturn and its games. The focus of the campaign, supporting a lineup including *World Series Baseball '98*, *Last Bronx*, and *Sonic R*, will

be to try and convince gamers that Saturn is a system with a strong software library that caters to its core users — a philosophy Sega has been clinging to for the past year. Among the additional titles that will be heavily supported in print are the DreamWorks-designed, Sega-ported *Lost World*, the English version of WARP's unique adventure game *Enemy Zero*, and the NetLink lineup.

Sega invented in-your-face videogame advertising, and despite its failure last year, the company is giving it another try. This year's "Hard Stuff" campaign is one that aims a little closer to the edge. For example, a print ad for *Sonic R* features a close-up of a teenager's face adorned with numerous gold ring piercings (Sonic rings — get it?). The print ad for *World Series Baseball* features a close-up of a player's severely scraped arm, implying that he just completed a vicious slide into one of the bases. Alongside these large print images (almost two full pages) is a thin vertical strip of screenshots and a little bit of information about the games. Look for television ads to feature the same kind of gritty attitude. The *Sonic R* spot, for instance, uses a technique called Stop Action Animation, which gives real people an animated yet realistic look, while the *Last Bronx* ad features an annoyed martial arts student hitting his sweetheart in the crotch with nunchaku. The first TV spots of the "Hard Stuff" campaign are for *Sonic R*, with at least four more titles to follow.

Although Sega is actually spending slightly less on its marketing campaign this season than last, it claims that with its new agency and strong company branding, it's actually getting more for its money. A brave face, at least. So will this confident new ad campaign be enough to convince potential consumers in this, arguably Saturn's most critical moment? It's difficult to say for sure, but it's doubtful that this, or any ad campaign, will really be enough to make much of a difference for Saturn, a moribund system if ever there was one. But with Sega trying to do little more than maintain its current loyal fan base, the campaign looks as strong as any.

Burning Rangers

Publisher: Sega
Developer: Sega (Sonic Team)
Release Date: Q1

Probably the most promising of all the Saturn titles due out in the next few months, *Burning Rangers* from Yuji Naka and the Sonic Team puts players in control of an elite squad of firefighters sent into burning buildings to put out dangerous fires and rescue fallen victims. The game features the best Saturn has to offer insofar as graphics and sound, and most importantly, offers an exciting and original gameplay model.

Dead or Alive

Publisher: Tecmo
Developer: Tecmo
Release Date: Q1

A surprisingly fun and deep 3D brawler with interesting extras, *Dead or Alive* (which is also being ported to PlayStation) is one of the precious few strong third-party contributions. It was among the first games to use the licensed Sega Model 2 arcade board, and so its conversion to Saturn was as painless as Sega's excellent *Virtua Fighter 2*. It may not be very innovative, but it's still more entertaining than most fighting games of late.

Duke Nukem 3D

Publisher: Sega
Developer: Lobotomy
Release Date: Out now

Last year's only real competition for *Quake* on PC, *Duke Nukem 3D* is also available on Saturn this year. One of the most irreverent 3D shooters ever made, Saturn's *Duke Nukem 3D* strives to maintain the integrity of the original in all aspects, including the game's twisted sense of humor. Unlike *Quake*, *Duke Nukem 3D* is also available for multiplayer action over NetLink.

Enemy Zero

Publisher: Sega
Developer: WARP
Release Date: Out now

Based in deep space, *Enemy Zero* pits the player against an unseen enemy in a space station filled with brutally slain victims. The work of Japanese-based WARP is well-documented and highly respected around the world. Following a controversial fallout with Sony of Japan, WARP went to work exclusively with Sega. And so we finally have a U.S. release for this innovative adventure game, and the only console it's available for is Saturn.

Last Bronx

Publisher: Sega
Developer: Sega (AM3)
Release Date: Out now

Saturn has yet to see a holiday season without a strong fighting game as part of its arsenal, and this year is no exception. *Last Bronx* is the product of Sega's AM3 department and features some of the most brutal weapons-based fighting seen in any fighting game. Although *Last Bronx* may not be as exciting as the canceled Saturn version of *Virtua Fighter 3*, it's still a solid offering.

Panzer Dragoon Saga

Publisher: Sega
Developer: Sega (Japan)
Release Date: Q1

When Sega released the original *Panzer Dragoon* for Saturn at the system's launch, many were struck by its visual beauty and thorough realization of a unique fantasy world. *Panzer Dragoon Zwei* went on to further the series' reputation for graphic lushness. Now Sega has taken the experience one step further with an immersive RPG set in the beautiful 3D world first created for the *Panzer Dragoon* action games.

Quake

Publisher: Sega
Developer: Lobotomy
Release Date: Out now

One of the biggest PC games ever comes to Saturn, and, at least for this holiday, it's not available on any other console. *Quake*, for those still not familiar with id's latest and greatest creation, is a top-notch, first-person shooter that has been translated well to Saturn. The game features an extremely fluid frame rate, all the weapons of the original, and the vicious 3D enemies that made the game so famous to begin with.
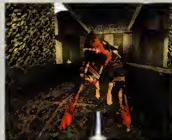
Sonic R

Publisher: Sega
Developer: Traveller's Tales
Release Date: Out now

Under development in Europe by Traveller's Tales, makers of *Sonic 3D Blast*, *Sonic R* is a unique blend of 3D action/adventure with a high-speed racing game. With most gamers believing that Sonic has yet to make a proper appearance on Saturn, *Sonic R* will likely be met with some skepticism, but the game features an impressive 3D engine and characteristically fast-paced action from Sega's once-proud mascot.

World Series Baseball '98

Publisher: Sega
Developer: Sega (Japan)
Release Date: Out now

Simply put, this is the best baseball game for any system and represents a marked improvement even over last year's version. With its innovative batting mechanics, *World Series Baseball* creates a sense of realism never seen before and matches that with accurately rendered 3D stadiums, polygonal players, and a deep well of accurate stats and unique player strengths.

Worldwide Soccer '98

Publisher: Sega
Developer: Sega (Japan)
Release Date: Out now

The best soccer game on any system just got better. Although *Worldwide Soccer '98* has not seen the marked improvement made in this year's version of *World Series Baseball*, the game has been tweaked in some meaningful areas. Among the most important of these tweaks is a vastly improved goalie AI, the biggest weakness of the original.

Conclusion

Despite the fact that the system will once again play host to some of this year's strongest software, the conclusion for Saturn this holiday season is not a bright one. Plain and simple, among the current console systems on the market, Saturn has the least left to give. This is not to say that Saturn is not a great system for games, especially considering the fact that titles as good as *Burning Rangers* and *Panzer Dragoon Saga* are just becoming available. But it is clear that Saturn is near the end of its brief and turbulent life cycle. The lack of any significant third-party support this holiday season for a system that most feel is already outdated, technologically speaking, can mean only one thing: the end of the road.

Would someone be absolutely foolish to buy a Saturn this season? Absolutely not. With its software library of more than 200 games in the U.S., it could easily be considered a sound investment. But the system has clearly seen its best days, and while Sega still plans to release several more titles for it, support for the system in North America, especially from third parties, is basically nonexistent. Last, but certainly not least, with Sega readying itself for its next console release, Saturn will soon be taking a backseat to bigger and more exciting things at the Sega camp.

Current Rating

Demonstrated hardware power ★★

Current software library ★★★

Future software prognosis ★

Marketing muscle ★★

Overall future prognosis ★

Final score ★★

This time last year

Demonstrated hardware power ★★★

Current software library ★★★

Future software prognosis ★★1/2

Marketing muscle ★★★

Overall future prognosis ★★1/2

Final score ★★★

For lefties, righties, nose pickers,
shark attack survivors,
folks with poison oak,
avid porn fans,
pissed off New York taxi cab drivers,
a certain mid-80's hard rock drummer,
that clumsy kid in shop class,
people who gave their right arm for something,
and Sabrina Whitehead,
who wrote down absolutely everything
Mrs. Dinklemeyer said in History 101.

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PC

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The Ultimate:
Pentium 2 Pro 300
512K internal L2
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     cache
128MB ECC SDRAM RAM
Full tower case with a
     300-watt power
     supply
9.0GB Ultra SCSI hard
     drive
Iomega Jaz drive
US Robotics Sportster 56K
     X2 internal
     fax/data modem
Intel 82440LX PCI chipset
1.44MB 3.5" floppy drive
24X EIDE variable speed
     CD-ROM drive
Controller:
Adaptec AHA-2940 UW
     SCSI host adapter
     (needed for
     selected hard drive)
Monitors:
21" Hitachi Superscan
     (primary)
35" Princeton monitor
     (gaming)
Videocards:
Diamond Viper V330 (Riva
     128 for 2D and
     Direct3D)
Canopus Pure 3D (3Dfx)
Videologic 3Dx (PowerVR)
**Motherboard should have
at least:**
2 ISA slots
3 PCI slots
1 AGP slot
Sound system:
Creative Labs Awe 64
Wavetable Sound
Diamond Monster Sound
Cambridge SoundWorks
Microworks-2 satellites
     and subwoofer
Approximate price:
$6,200
Rating: ★★★★★

Intermediate:
Pentium 2 Pro 266
512K internal L2
     secondary SRAM
     cache
64MB ECC SDRAM RAM
Full tower case with a
     300-watt power
     supply
8.1GB Ultra ATA hard drive
Iomega Zip drive
US Robotics Sportster 56K
     X2 internal
     fax/data modem
Intel 82440LX PCI chipset
1.44MB 3.5" floppy drive
24X EIDE variable speed
     CD-ROM drive
Controller:
Diamond Fireport 40
Monitors:
19" Hitachi Superscan

Videocard:
Diamond Viper V330 (Riva
     128 for 2D and
     Direct3D)
Canopus Pure 3D (3Dfx)
Videologic 3Dx (PowerVR)
**System should have at
least:**
2 ISA slots
3 PCI slots
1 AGP slot
Sound system:
Creative Labs Awe 64
Wavetable Sound
Advent AV570 Powered
     Partners with
     subwoofer
Approximate price:
$4,000
rating: ★★★★

Minimum:
Pentium 2 Pro 233
512K internal L2
     secondary SRAM
     cache
32MB ECC SDRAM RAM
Mini tower case with a
     300-watt power
     supply
6.4GB Ultra ATA hard
     drive
US Robotics Sportster 56K
     X2 internal
     fax/data modem
Intel 82440LX PCI chipset
1.44MB 3.5" floppy drive
24X EIDE variable speed
     CD-ROM drive
Controller:
Diamond Fireport 40
Monitors:
15" Sony Trinitron
Videocards:
Number Nine Revolution
     (2D)
Canopus Pure 3D (3Dfx)
**System should have at
least:**
2 ISA slots
3 PCI slots
1 AGP slot
Sound system:
Creative Labs Awe 64
Wavetable Sound
Advent AV 270 Powered
     Partners
Approximate price:
$2,500
rating: ★★★
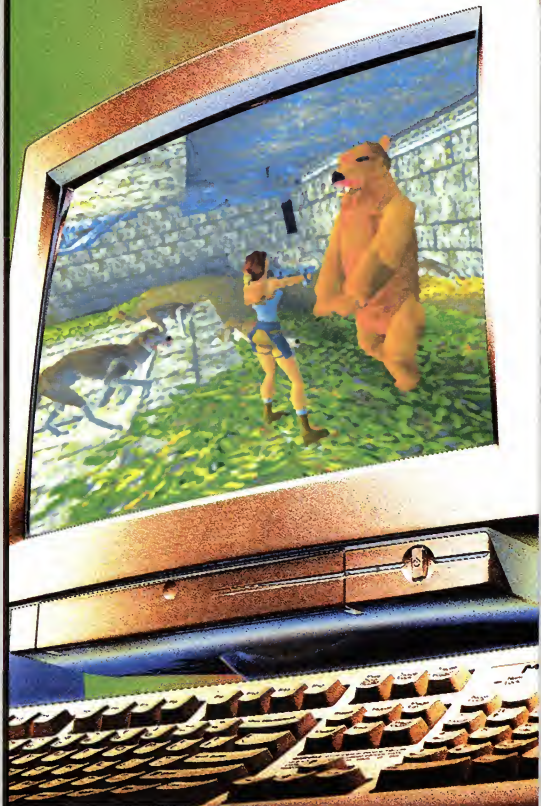
The story so far

The MS-DOS PC has not always been the system of choice for the advanced gaming crowd. In the early days, it was usually a third choice for development, after the Apple II and Commodore 64. After the rebirth of consoles, starting with the NES, it was the exception, rather than the rule, that anything other than strategy, sims, and adventure games would be released on the PC. It wasn't until the advent of the CD-ROM drive and the release of games like *Wing Commander* and, yes, *Myst*, that the PC began to be regarded as a game machine by any but a small niche audience.

Although plenty of publishers tried their luck with action games on PC, none was very successful (*Prince of Persia* being one notable exception), and gamers continued to think of the PC as the strategy machine while looking to consoles for fast-paced thrills. But the PC continued to evolve, and then suddenly, some three years ago, there was something that PCs could do through

sheer horsepower that consoles couldn't: 3D games. Sure, Nintendo did a respectable job with *Star Fox* and Sega with *Virtua Racing*, but for the most part, 3D was not part of a console's vocabulary. For the first time, gamers started looking to the PC for creative new action game experiences. Some of the first publishers to take advantage of this movement were Origin with *Ultima Underworld* and Id with *Wolfenstein 3D*. Soon to follow were 3D blockbusters like *Doom* and Papyrus's *Indy 500*, which acted as the jumping off point to the age of 3D gaming. Yes, the PC still meant slower strategy-based games for those who wanted them, but finally it meant action too.

But then came the 32-bit consoles, and once again, the home market seemed ready to reclaim its position as the action gamers' platform of choice. Both PlayStation and Saturn could offer better 3D performance in terms of frame rate and texture palettes, and PC gamers were forced to wait for a solution. The gaming world did not have to wait for

ng special

10 biggest games of this season

If there's one thing the PC has, it's support from the development community — and strong support means good games. As opposed to the sometimes stifling environments of the gaming consoles, the open-ended nature of the PC architecture serves as an open invitation for developers to push the very bounds of imagination, and occasionally the fruits of that challenge are heart-stopping advances in the field of games. Among the exciting games this season are Activision's *Battlezone*, Id's *Quake 2*, and LucasArts' *Jedi Knight*.

long. Three-dimensional acceleration started as a gimmicky extra that didn't make much of a difference and worked only with the smallest selection of titles. But things changed quickly with the arrival of major players like Nvidia and 3Dfx, and the blockbuster games they supported, including *Tomb Raider, MechWarrior 2,* and *Descent.*

And so today, 3D accelerator cards have revolutionized the performance of the PC in a heavily 3D-dominated gaming world. As we near the release of second generation technologies from 3Dfx, PowerVR, and Nvidia, we are likely to see nothing except improved performance in all genres of gaming on the PC. The next move, it would seem, belongs to the consoles.

Online/multiplayer

It's difficult to gauge the advantage enjoyed by the PC over its gaming competitors because of online and multiplayer gaming, but it begins with a very simple concept: a feeling of connection. From the instant a PC is plugged into a phone line (in any of its more or less friendly forms), that computer becomes part of a network and thus part of a community. In the gaming world alone, the options from this point are many and exciting. From playing games with competitors around the world to distributing independent projects to just chatting about games or ideas for games, being online means always having someone with shared interests to interact with. Some might argue that the immediate multiplayer ability of the console — the ability to beat your friend in your living room — makes up for much of a console's shortcomings in Internet gaming, but the fact remains that this is largely a phenomenon that cannot yet be matched by consoles, despite respectable efforts from Sega with its NetLink add-on for Saturn.

What the PC community has yet to create, however, is the be all, end all model for an online gaming service. Services like Mplayer and TEN have managed to attract respectable numbers but have not yet been able to quell the growing concern that gaming services in their current form are merely an unnecessary middleman in the

process of playing online games. This belief is further supported by efforts like Blizzard's Battle.net, which requires no such service and yet delivers an easy-to-use alternative for gaming over the Net by building the option straight into its software. And still the online services continue to arise. SegaSoft's Heat network has recently gone official and offers some unique features, like its innovative Transactor technology, which just may prove the key to convincing resistant gamers. But whether formal online gaming services succeed or fail, online gaming is an important part of PC gaming and will continue to serve as a key advantage.

The facts about current 3D accelerator boards

With the advent of powerful 3D accelerators, PCs have quickly established themselves as legitimate 3D gaming machines. Many of the newest accelerators outperform any of the current consoles on the market and can even approach performance that was previously only seen on high-end graphic workstations. Shown below are what **Next Generation** feels are and will be the most influential 3D accelerators for gamers.

3Dfx Voodoo Graphics

Undeniably, the technology with the largest developer and gamer mindshare is 3Dfx's Voodoo Graphics. 3Dfx's strength lies not only in performance that has taken its competitors the better part of a year to catch up to, but also in its ease of development through the introduction of the board's own 3D API, Glide. 3Dfx has worked closely with dozens of developers in the creation of Glide and provided far more support to the development community (and even hobbyist developers) than any other manufacturer. As a result, more games are being developed specifically for 3Dfx than for any other board on the market. Support for Direct3D and OpenGL (primarily through wrappers) has also been a strong point of the technology. 3Dfx has also taken the approach of trying to establish itself as an actual "platform" through its inclusion in PCs, Macs, arcade

boards, and, it eventually hopes, a console.

In Glide applications, most 3Dfx Voodoo Graphics boards run at 640x480 and use 2MB of texture RAM in conjunction with a 2MB frame buffer. Newer cards (like the Canopus Pure 3D) have doubled the amount of texture RAM to 4MB, enabling developers to use higher-resolution textures and rely less on swapping. All boards have hardware support for mip-mapping, per pixel fogging, alpha blending, z-buffering and perspective correct texture filtering. As a final note, these boards are 3D-only solutions and work with your existing 2D graphics cards.

While the Voodoo chipset is still an excellent technology, it has been on the market for more than a year. Newer technologies have finally overtaken it in terms of performance, and as a result, 3Dfx's next generation of 3D hardware will shortly be announced: the Voodoo 2 and Banshee chipsets. Neither is expected to hit the market on any boards until at least the end of the first quarter of 1998, but performance estimates from informed developers blow the doors off of any other known consumer level technologies on the horizon. Says one developer of Voodoo 2's expected performance: "Imagine playing *Quake* at the frame rate of your monitor's refresh rate."

Boards using 3Dfx Voodoo Graphics:
- Canopus Pure3D
- Deltron Technology RealVision Flash 3D
- Diamond Multimedia Monster 3D
- Miro Computer Products miroHISCORE 3D
- Orchid Technology Righteous 3D
- TechWorks Power3D (Macintosh)

Rendition

Rendition's Væritæ V1000 technology was one of the first accelerators on the market with any appreciable power. Like 3Dfx, Rendition came up with its own API for writing directly to the 3D hardware in the form of "RRedline." Rendition's strength has traditionally been in the board's relatively large texture buffer, coupled with its excellent 2D performance. As an integrated 2D/3D solution, early Rendition boards were excellent for general use, but didn't offer 3D

Battlezone

Publisher: Activision
Developer: Activision
Release Date: Q1

One of the most impressive new generation updates we've seen in a long time, *Battlezone* from Activision starts with everything that was great about the original 3D action game and creates a brand new experience around it. Seamlessly combining the immersive quality of 3D action with the compelling aspects of the realtime strategy genre, *Battlezone* represents a whole new style of gameplay and should be a welcome title this season.

Blade Runner

Publisher: Virgin
Developer: Westwood Studios
Release Date: Q1

Based on the sci-fi movie to end all sci-fi movies, *Blade Runner* from *Command & Conquer* creators, Westwood Studios, is set to take the movie's legacy to the next level. Featuring state-of-the-art technologies throughout, *Blade Runner* is a wonder to behold and a big step in the advancement of the adventure genre. Few movie-licensed games hold up their end of the deal. *Blade Runner* looks to be one exception.

Daikatana

Publisher: Eidos
Developer: Ion Storm
Release Date: Out now

One of the biggest questions in the PC world is what kind of work John Romero and his new company, Ion Storm, will create now that he's left Id. Probably not to the surprise of many, the first game due for release from the fledgling company is a first-person shooter — with more than a few important twists. Probably the most important innovation is the fact that the main character does not act alone but travels with a small team of specialists.

Duke Nukem Forever

Publisher: GT Interactive
Developer: 3D Realms
Release Date: Q1

Duke Nukem Forever is the follow-up effort from 3D Realms, who, in a surprise move, will use the engine designed for its most fierce competitor of last year, *Quake*. Though this one won't actually be out by Christmas, it's sure to play a big part in the post-December buying frenzy. As 3D Realms tries to build a reputation for itself as one of the leading 3D action game developers, titles like this will play an important role.

G.Police

Publisher: Psygnosis
Developer: Psygnosis
Release Date: Out now

One of the most visually stunning games due out on any platform this season, *G.Police* from Psygnosis combines the fantasy of a futuristic flight game with the excitement of a mission-based action game. With *G.Police*, Psygnosis further establishes itself as the company that understands how to create a game with amazing visuals, without forgetting about the gameplay.

Heavy Gear

Publisher: Activision
Developer: Activision
Release Date: Out now

Activision's answer to its loss of the *MechWarrior* series, *Heavy Gear* is the next step in realtime 'mech warfare. Expect more of everything: advanced environments, weapons, and, of course, 'mechs with which to battle and struggle against. With Activision's history in the genre and ever-more-refined engine, *Heavy Gear* should be an exciting arrival for those eager to take control of a state-of-the-art giant armored combat robot.

Jedi Knight

Publisher: LucasArts
Developer: LucasArts
Release Date: Out now

It took two years, but LucasArts finally released a sequel to *Dark Forces*. Beyond the predicted cosmetic enhancements featured in this long-awaited sequel, the implementation of the lightsaber as a weapon creates a new up-close-and-personal battle dynamic not found in any other first-person shooter. With *Star Wars* still a hot topic of discussion, *Jedi Knight* is a guaranteed hit this season.

Quake 2

Publisher: Activision
Developer: Id
Release Date: Out now

Quake 2 is probably the most highly anticipated game of the season, and for those still unable to wear out the original game, an extremely welcome addition to the holiday shopping list. Aiming to advance the art of first-person shooters to a whole new level all over again, Id has implemented a wealth of new weapons, enemies, and visual effects. Look for *Quake 2* to set the new high watermark for the genre.

StarCraft

Publisher: Blizzard
Developer: Blizzard
Release Date: Q1

The realtime strategy genre has all but gone to sleep since the explosion of interest in *Quake* and various other first-person shooters, but *StarCraft* may just be the game to wake it from its slumber. From the development team that brought us the *WarCraft* series, *StarCraft* explores the infinite possibilities of realtime strategy in a deep space environment, yet keeps the same humorous approach that made *WarCraft* so endearing.

Tomb Raider II

Publisher: Eidos
Developer: Core
Release Date: Out now

Core's follow-up to one of last year's most exciting games on any platform, *Tomb Raider II* is an even bigger adventure than the original, with the addition of new features like portable torches, new climbing abilities, more complex environments, and more human enemies. With all the *Tomb Raider* clones due out this year, it should be nice to have the real thing again, and the high resolution, 3Dfx-enhanced version for PC is special indeed.

performance on par with 3Dfx.

To remedy this situation, Rendition has recently announced its V2000 line of accelerators, which should begin appearing on shelves as early as Christmas. The V2200 is currently the high-end chipset of the line and should be the company's best offering for games. True to Rendition's vision of being a "total video solution," the V2200 provides video inputs and hardware MPEG2 support, in addition to television outputs. Features include texel filtering, pixel blending, z-buffering, fog blending, dithering, and specular highlighting. A lower cost version of the V2200 is the V2100, which is aimed at the motherboard market.

According to Rendition, the new boards will run all previous Rendition ready titles even faster than before. Naturally, D3D and OpenGL drivers will also be provided. According to Winbench 3D benchmarks by leading research firms, the Rendition V2200 just edges out the 3Dfx Voodoo in Direct3D performance.

Boards using Rendition V1000
• Canopus Total3D
• Creative Labs 3D Blaster PCI
• Intergraph Intense 3D 100
• Miro Computer Products miroCRYSTAL VRX
• Sierra On-Line Screamin' 3D

Boards that will use Rendition V2200
• Hercules Thriller 3D

PowerVR
Seen by many in the industry as the "sleeping giant," PowerVR not only has impressive performance, but also the financial backing of NEC and Videologic to make it a major player in the 3D accelerator field. Following a slow start and some design flaws in its first incarnation (PCX1, which lacked bi-linear filtering), the company has since come back with the PCX2, which was for many months the only real rival to 3Dfx. With PCX2 solutions having been on the market for nearly six months, PowerVR is readying its next chipset, called PMX or Highlander, upon which both PC boards and Sega's Dural will be based.

While still not yet officially announced, the new Highlander technology is said to offer at least a fivefold increase in performance over PCX2. At the same time, it adds support for bump mapping, edge anti-aliasing, anisotropic filtering, bi- and tri-linear filtering, specular highlighting, and texture conversion. Also, previous PowerVR boards were 3D-only solutions, but the new chipset is said to be an integrated 2D/3D

solution, and should be available in some form by the first quarter of '98. It should be noted that the PowerVR technology is generally far cheaper to manufacture than most other technologies that offer the same performance, but said performance is very dependent upon the speed of your CPU, unlike some of the others on the market.

PowerVR's deal with Sega puts it in the enviable, and for now unique position of having a console platform under its belt. What this should mean (if correctly exploited by Sega and PowerVR) is that porting to PC from console and vice versa should be very easy, ensuring a steady flow of native titles. At the same time, PowerVR is also involved in a number of arcade projects, where it may also reap the benefit of ported titles.

Boards using PowerVR PCX2:
• Matrox Graphics m3D
• Videologic Apocalypse 3Dx
• Videologic Apocalypse 5D

Nvidia
Nvidia's Riva 128 hardware turned more than a few heads at this year's CGDC. While lacking the support of 3Dfx and Rendition, or the funding of PowerVR, Nvidia has seemingly come out of nowhere to reach the top of most independent Direct3D benchmarks. At the same time, the Riva 128 offers strong 2D performance for standard Windows tasks.

Nvidia will primarily be focusing upon Direct3D support and eventually OpenGL (at press time drivers were not yet released), rather than working on yet another custom API. The board itself has some excellent specifications and benchmarks, but some developers (notably Id Software) have voiced some concern regarding the constraints of the board's 4MB frame buffer (which is used as a front buffer, back buffer, z-buffer, and with what's left, texture buffer). As a result, a number of developers feel the board will have a difficult time with 3D applications running at resolutions above 800x600 (a standard that the next generation of boards from Rendition, 3Dfx, and PowerVR will likely exceed).

Either way, there's no denying that this board's Direct3D performance is currently the cream of the crop, and it is now in the hands of the older silicon manufacturers to catch them.

Boards using Nvidia Riva 128
• Diamond Multimedia Viper V330
• ELSA Victory Erazor
• STB Systems Velocity 128 3D

Conclusion
The PC is currently the platform of choice for anyone looking for cutting-edge gaming. Beyond PlayStation, Saturn, and yes, even N64, a fully loaded PC provides thrills unknown to any current console. Whether a question of system memory, processor speed, resolution, access speed, special graphic effects, force feedback controls, or multiplayer abilities, the right PC cannot be touched by this generation of consoles and has even begun to work its way into arcades, a place that used to mean high-end proprietary technology only.

So the PC must be the obvious choice for serious gamers this holiday season, right? Yes and no. The one major drawback, as it's always been, is price. For $149, gamers can pick up any of the latest gaming consoles and lose themselves in some pretty immersive software. But gamers who must have the latest that makes everything look, sound, and feel a little more real can expect to pay well over $3,000. Additionally, while consoles are guaranteed to play every game released for them, PCs must be constantly upgraded to play the latest games; we regard the rating of any PC that has specs lower than our minimum as a one-star system — not acceptable for playing games. Top of the line systems bought only 18 months ago would fall into this category.

With the onset of the 3D accelerator revolution and the explosion of interest in multiplayer gaming, the PC is finally delivering on its promise, and gamers are taking notice like never before. But the question still remains: Is the disparity in price between consoles and PCs really worth the difference in quality or experience? There is not a significantly larger number of five star games on PC versus consoles, and some of the best games ever — *Mario 64*, *Final Fantasy VII* — are console only. In the end, that question can only be answered by the individual consumer, but there are a few other important considerations in the purchase of a PC gaming machine. One, a PC is not a predetermined box like the gaming consoles and thus can be upgraded piece by piece or put together on the cheap. Also, a PC can actually be used for all those other nongaming applications consumers like to reference when trying to justify the price, although, with the exception of web and print publishing, we take Eugene Jarvis' view — "There is no legitimate application for a computer other than playing games."

Welcome
to the next level

Just beyond the current generation of consoles lies a new world of possibilities, and Sega will be the first to deliver this next level of technology to the public

Tech specs

CPU:

Hitachi SH-4 200MHz CPU
GRAPHICS CHIP: PowerVR2 (Highlander)
SOUND CHIP: Yamaha ARM7-based ASIC
MAIN RAM: 8MB
VIDEO/TEXTURE RAM: 8MB
AUDIO RAM: 2MB
CACHES: 8k instruction/16k data/128K CD-ROM buffer
MODEM: Modem card (possibly PCMCIA based)
OUTPUT: VGA and 640x240 anti-aliased RF
CD-ROM: Custom dual format

Highlights:

HITACHI SH-4 CPU
200MHz
360 Dhrystone v1.1 MIPS
2-way superscalar
32-bit integer, 64-bit floating point
8K instruction cache, 16K data cache

5 stage pipeline floating-point unit that can do the following:
scalar product in 3 cycles, fully pipelined (single-precision floating point) using just 1 instruction matrix transform in 7 cycles, partially pipelined, single-precision floating point, using 1 instruction. That's 16 multiplies and 12 additions, all single-precision fp, in 1 instruction.

208- or 256-pin package
1.8 watts worst-case power consumption

GRAPHICS
PowerVR2 chip
1.5 million polygons per second
mip-mapping
texture filtering and hardware fogging
Support for OpenGL and D3D (making PC ports easier than ever)

MEDIA
Dural features a Yamaha CD drive running at 12x speed. The system will feature dual density capability, allowing games to be delivered on either regular density CDs or proprietary 1Gig super-density discs, or both

MODEM
Dural will feature modem capability in the form of a card (similar to PCMCIA specifications), which may or may not come standard

Sega Dural

Probably the most exciting news to hit the gaming world as of late are the final specs (as laid out in a development kit manual) of Sega's next generation game console. At its core, Sega's next console is a heavily PC-based machine. From the PowerVR graphics chip to the proposed Microsoft operating system, Dural (a working name that has changed once and may change again) takes a big lesson from the current PC market in 3D graphics and development accessibility. But Sega is not happy to deliver a machine that only matches the current best that gaming technology has to offer (a mistake the company has made in the past). Instead, it has created a machine that will literally define the next generation.

Using PowerVR's Highlander 3D acceleration technology, a chipset that is not yet even available for PC, and a 200MHz Hitachi CPU (as opposed to Saturn's 28MHz CPU), Sega is determined to give the machine performance beyond what any consumer console can offer. Dural will be an outstanding piece of hardware — a true leap, in many important ways, surpassing even Sega's own Model 3 arcade hardware, a standard that most thought would be untouchable in a home console. The final question will be the quality of software delivered on the machine. However, with Sega's heritage of great games, especially AM arcade ports, combined with what may be its first great console since Genesis, we expect great things.

Sega's **Dural** should offer performance not only leaps and bounds above current consoles, but possibly its own Model 3 arcade board

last bronx

Which way to
the
underground?

The explosion of independent music and films has meant more than just a new business model — it's been the long-overdue invitation for creative minds to crash the corporate party. So, is the game industry ready for a new guest list? And if so, who's on it?

When we think of the underground, or independent spirit in the arts, the images that come to mind are probably of things controversial and daring. They are the movies, books, and recordings that stray from the traditional rules with such a youthful arrogance as to shake loose a certain amount of respect from the establishment that made their creators rebel in the first place. They are the offerings that make no apologies for their gritty message, low-fi production value, or grainy 16-millimeter film quality. And in the end, they are the submissions that remind the world that there is more than one way to skin a cat — and that sometimes skinning a cat makes for good film.

But it's even more important than that. Being receptive to the voice of the underground means that we're willing to evolve and become larger somehow. This doesn't mean that we have to be fans of all the newest trends to reap the benefits of keeping an open mind. It only means that we have to be willing to give that lone voice in the crowd a chance to be heard and develop some kind of momentum. If the arts have taught us anything, it's that if we listen long enough, something great will rise to the surface and then we'll all wonder how we ever got along without it.

And so why has the game industry failed to produce an independent movement of its own? Is it possible that games are not yet considered a serious enough art form to warrant a backlash from the status quo, or can it be pinned on something as crude as their high creation cost? There are a number of reasons why an underground movement has yet to fully develop in the game industry, but it's important to understand that there are opportunities to change that, and there are a few game makers already taking those first tentative steps toward creating such a

movement.

And what kind of work are we seeing from this emerging class of game designers? They are games that follow a similar path as other underground art offerings in that they get back to what first made the medium so exciting. To these rogue designers, it's not about big flashy productions and one-upping the competition in visual impact, but rather, it's about simple, creative experiences that enable the player to do something new. In the end, all true underground art maintains a kind of simple and honest elegance, and the games produced in this manner are no different.

And so maybe it's time to stop asking why it is we're missing such an integral piece of the creative puzzle and start concentrating on ways to encourage its growth. Which way to the underground? Look around.

What is an underground game?

Calling a game underground could mean any number of things, but for our purposes, underground games shall be defined as: any game that represents a unique, personal vision, created for the love of the art and without an influential desire to make a profit. And thus the underground quality of a game is about the spirit of its creation, not about rigid guidelines concerning how or where the game was made or with what kind of funds. Can a hugely successful publishing company develop and release an underground-style game? In theory the answer has to be yes. Certainly there are game makers with the right motivational qualities at any big publishing company, and given enough freedom, these people could create an underground game. The reality of the situation, however, dictates that big companies only got to be big by making safe bets in the industry, not by releasing risky, underground-style games.

But this still leaves a large development and publishing community in a position to deliver

Big-production games like *Mario 64* clearly illustrate there are games being produced in the mainstream that are well worth playing, but they don't have to be the only choice

underground games, a large portion of which is waiting for nothing more than a sign that there is an audience for the work. And although these games may be a little more difficult to find than by visiting the mall or watching MTV, many can be found simply by searching on the Internet or chatting with other avid gamers in a newsgroup.

Creative block

There are any number of reasons why we have yet to feel the benefits of a creative backlash in the game industry. But for every obstacle there is a course of action that leads us to the other side, and it's in knowing about these possibilities that we take our first steps in opening the floodgates to a new creative spirit.

The financial return

Dilemma: Probably the cry that elicits the most sympathy in the battle to deliver non-mainstream games is that of "We can't afford to make the games we really want to make!" And who could blame our current crop of game makers for feeling this way? Generally speaking, as a game-buying public, we have done nothing but reinforce the industry's belief that repackaged versions of the same old games with better graphics are what we really want. And thus these are the only games, financially speaking, worth doing. But this is a frustrating catch-22. If all we've ever been offered are games with more flash than substance, how do we know that we're supposed to prefer something better? It's
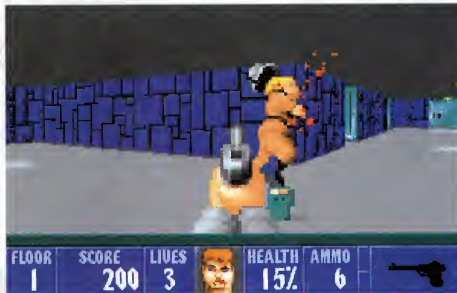
Although the first-person shooter now represents big business, it wasn't always that way. When Id created *Wolfenstein 3D* and *Doom*, the genre was considered experimental and yes, even underground

BLOW
THEIR MINDS

BLAST CORPS
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Kenji Eno's
life stories

When asked about his personal motivation to create games with an independent spirit, Kenji Eno, president of the Japanese-based company Warp, said that trying to explain it would be like telling his personal life stories. He then went on to advise, with a smile, that we simply ask the same question of his father. And so it was when Next Generation sat down with one of Japan's most important underground designers — the man who created such novel games as *D*, *Enemy Zero*, and his most recent "sound only" game, *Real Sound* — to talk about his role as a leading creative talent and the life that got him there.

NG: Are the games you make unusual on purpose?

Mr. Eno: I don't intentionally make games that are inherently different. It's just that doing the same thing over and over again like *Final Fantasy VII* or *Dragon Quest VII* isn't the way that I work.

NG: So how do you work?

Mr. Eno: Whenever I make a game, there is a basic idea or concept that I want to relay to the player, and in order to do that, I can either work in a traditional way or do something different. For example, when you play a guitar, if you crank it up into overdrive, something different is going to happen. I apply this same experimental philosophy to making games. Then, once I have a basic concept in mind, I set out to build a game around it. My approach is probably why my games are a little different from most.

For example, in *Enemy Zero*, I wanted to ask the question, "Why do human beings exist?" That's why the game evolved into something with an enclosed space and an invisible enemy — so that you would be forced to think about your own existence.

NG: You have a dual role at Warp: president and designer. How much do you let your presidential concerns about sales influence your designs?

Mr. Eno: Though many people in Japan buy traditional games like *Virtua Fighter*, I want to make games that will appeal to an even wider audience. A game like *Real Sound*, for example, should be a gateway to a new audience of people who didn't even know they wanted to play games.

I send a lot of games to my father, for example, but he doesn't play them because he doesn't like traditional games. I think he might like a game like *Real Sound*, though, because it doesn't require that you know about traditional game rules.

NG: Your games have always had a cinematic feel to them. Does this come from a love of the movies?

Mr. Eno: Yes, I have an extreme love for the movies, as does my dad [a point that seems to make a big difference to Eno].

NG: You've mentioned your father a few times. Did he play an important role in getting you where you are today?

Mr. Eno: Yes, I think maybe my next game will be called *Dad*.

NG: Have you found that other game designers have been encouraging to you and the work that you're doing?

Mr. Eno: Yes, I'm friends with a small group of designers that have been very supportive of me. For example, Kazutoshi Iida, the creator of *Aquanaut's Holiday* and *Tail of the Sun*, is my best friend and we work together on ideas. I am also friends with Yutaka Saito [*Sim Tower*], Yu Suzuki [*Virtua Fighter*], Shigeru Miyamoto [*Mario*] and Yuji Naka [*Sonic*]. The five of us get together to discuss ideas.

I feel that a lot of the so-called creators out there aren't really involved in the actual design. They may be creating an outline for the game but then leaving it for other people to fill in the holes.

NG: Other than the work of your five friends, what do you think of the games that are being produced for today's market?

Mr. Eno: The technology is better and the games themselves have probably even become a little more fun to play. For example, *Mario 64* is more fun to play than the original. However, there are still many things in the game industry that have not yet evolved. For example, you still play games on a TV with a controller. Also the user base has not really grown, which creates stagnancy in the industry.

As a means to express one's feelings, I don't think that videogames are quite as important as music, for example. Games are more like one small genre of music. In rock music, for example, it's all about drums, guitar, and vocals, and if I came along and said that I wanted to make music with drums and vocals only, I wouldn't really be accepted in the rock world. This is what the videogame industry is like, and I believe that it has to expand to accommodate a wider audience.

NG: What, on the technology side, would you like to see evolve?

Mr. Eno: I think there are big opportunities in networking, writable media, and voice control. There is also room for improvement in the implementation of today's technology. For example, in working with Saturn, we've found that two hours of music can easily be turned into four with the compression technology built into the system. And it's not just the technology that needs to be looked at. In fact, I think in some ways, the technology is beyond our own level of development and ideas.

Not satisfied to deliver the same old thing, Eno's games offer a more human experience than most

NG: What do you think most gamers are looking for from the game market?

Mr. Eno: I think that a lot of people were influenced by the way Nintendo makes games. The closer a game is to the Nintendo model, the higher it's rated. The industry itself has to change on this point and start giving credit to games that are different.

NG: What kind of advice would you give to a young designer interested in making a unique contribution to the game industry?

Mr. Eno: I actually teach at several gaming schools in Japan, and the first thing I tell my students is to write down the things they like the most, hate the most, and things they know the best. Then I tell them to design a game around those three things. So, for example, if you like hot air balloons, then you should make a game about hot air balloons. Mostly I would just say that a game should come from your heart and relate deeply to your own feelings.

hard to show support for something that doesn't exist yet, and most successful game makers are going to remain deaf to that particular problem as long as they continue to make a profit.

Solution: This is just a case of looking for love in all the wrong places. Looking to the industry players who are delivering the same safe games over and over again and suggesting that they take bigger risks is ludicrous. No underground movement was ever born this way and never will be. Underground movements get started on the fringes by those who aren't concerned with maintaining the status quo. These are individuals and companies that don't have stockholders to consider and don't live and die by the bottom line. They're the companies that answer their own phones, frame every magazine article that mentions their name, and spend half their annual budgets on a closet-sized booth at E3. These are also the companies without the resources to buy all their employees SGI workstations, so if we're to encourage such companies to grow, we may have to cut them a little slack on cosmetic issues such as graphics or quantity of games produced per year.

Steep entry cost

Dilemma: Another important financial issue to consider is the steep entry costs a new game maker (be it an ambitious individual or small company) must face just to get started in the industry. Unlike other creative outlets like the music industry, where a new band can make a self-published demo CD for a very modest investment, a game maker must first invest in expensive development tools (especially on the console side, where hardware manufacturers charge thousands of dollars for development kits) and then find some way to distribute the game. While the PC shareware market allows such start-up companies some liberties in distribution outlets, the console side sees a situation so bleak that it seems practically hopeless at times. Even if a company can manage to afford the expensive development kits, a product still can't be published on a console until it's approved by hardware manufacturers, and this won't happen if they don't predict a healthy return in the form of sales royalties. This is why the gaming underground, if it is to flourish, will almost definitely have to begin on PC.

Solution: Probably the most important thing a potential underground game maker can do is to forget all about the console market, at least at first. The console market has been specifically designed to safeguard itself against an underground movement, and until it decides to at least unlock the door, an underground designer is likely to find nothing but frustration down that road. What *is* an extremely viable option, however, for game makers with a mind to shake things up a little, is the PC. After finding some commercial success with *Wolfenstein 3D*, id went on to exploit the shareware model in a major way with *Doom*, a game that quickly went from underground status to mainstream smash hit. With PC development, the necessary initial investments are fairly minimal, especially considering the fact that some of the development software can be downloaded for free from the Internet (see "Getting Started" boxout, page 85).

Consumers like mainstream games

Dilemma: A difficult challenge in the war against mass-market mediocrity in any field is that, in general, consumers are happy with the rehashed products delivered year after year. It's a comfort issue — consumers like to know what they're paying for up front. Certainly this is the case with

The **dim light** at the end of the **console tunnel**

Sony's Net Yaroze
http://www.scea.sony.com/net/

For under $800, anyone can buy a Net Yaroze PlayStation development kit. This, combined with a knowledge of the C programming language and a PC, will enable would-be underground game designers to make the games that are near and dear to their hearts. The system, which comes with a graphics library and a built-in support system of other Net Yaroze users, was specifically designed by Sony to get potentially great new designers to make games for PlayStation. Unfortunately, unlike the PC, which is a wide open opportunity for both developing and publishing, any game designed for Net Yaroze will first have to go through Sony before being published in any real capacity. This means that: 1) A game without market potential (a.k.a., mainstream qualities) will probably never see the light of day; and 2) Any game that actually does get published through this approach will by that time be so sanitized that it will probably not qualify for underground status anymore.

This does not mean that the Net Yaroze program is not a great place to start for young designers with courageous new ideas. Considering the attention a game can receive through the Net Yaroze support network, it's very possible that interesting projects and their creators may just find themselves working for a company with the funds

There's no question about it: The PC is the best opportunity going for creating underground games, but there are at least two options to consider on the console frontier

to back the project the way it was originally intended.

Sega Saturn BASIC

Another potential bright spot in the effort to encourage creative new designers on the console front is the upcoming Saturn BASIC program. Though there are no plans to bring the system to the U.S., it may soon be possible to import a package designed to allow programmers to get back to their BASIC roots in making games for Saturn. Because of the lack of support from Sega of America, Saturn BASIC does not look like the opportunity that Sony's Net Yaroze is, but because it requires minimal programming knowledge, it could still be a good thing. Perhaps Sega will put forth more of an effort to support hobbyists with its next console.

Getting started

A step-by-step guide to underground
game development on a budget

A popular excuse as to why more people aren't involved in making underground games is the steep entry costs associated with development hardware and software. But this doesn't have to be the case. With just a limited knowledge of C or other languages and a list of modestly priced tools, any potential game developer can get started on a career in underground games without having to depend on the deep pockets and controlling nature of most publishing companies.

While the console realm is still likely to be out of reach for most garage developers (with the exception of those using Sony's Yaroze or Saturn BASIC), the PC, with its affordable tools and shareware opportunities for distribution, remains a viable underground development arena. Beyond the investment in a high-end PC or Macintosh, it could take as little as $1,000 to get everything needed to get started. It is, of course, possible to spend much more, but not absolutely necessary.
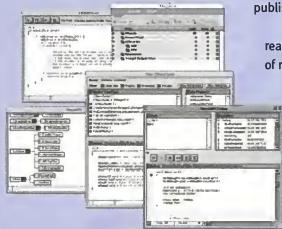
For the game design hobbyist, CodeWarrior Pro offers an excellent suite of software development tools

Development environment
The cornerstone for any affordable development should be CodeWarrior Pro from Metrowerks — available for PC and Macintosh. At a cost of roughly $600, the CodeWarrior development environment provides a complete editing, compiling, and debugging environment for C/C++, Java, and Pascal. Educational discounts for students bring the cost to as little as $120, and reasonably priced upgrades are also available.

The CodeWarrior compiler is fast, and the graphical interface is easy to learn while still offering massive options. A newly revised project manager allows for tracking multiple projects as well as multiple targets per project. Finally, the package includes tutorials and sample code, which will prove useful for new coders. For those seeking additional Java support and database connectivity, Visual Cafe Pro is available for a modest $200.

There is a cheaper option still. Though the environment does not make available all the features of CodeWarrior Pro, the absolute lowest cost solution going is Linix, combined with one of the freeware C/C++ compilers for Linix.

2D graphics package
Adobe Photoshop is the standard in 2D packages. While the $600 price point is a bit steep for casual users, lite versions and educational discounts on Photoshop bring the price into a more reasonable $100 to $300 range. The beauty of Photoshop is found within its plug-in architecture, which allows for a wide array of filters to be applied to images. A large number of filters have already been developed, and most of them are freely distributed on the Internet. In addition, there are commercially developed plug-in collections that sell for about $100 each.

As an extremely low-cost but still flexible alternative to Photoshop, Paint Shop Pro from JASC is a shareware package that offers many of the same functions for a mere $70 registration fee.

3D modelers
As 3D continues to become the norm, a modeling package is becoming more of a necessity for developers at any level. While workstations have typically dominated the 3D graphics space, cheaper PC solutions are becoming more

and more competitive.

3D Studio MAX (a popular software package among major developers), with its price tag of more than $2,000, is likely to break the budget of the casual developer. But Caligari's TrueSpace 3 weighs in at a considerably more reasonable $600 price point. TrueSpace is well-documented and supports named model hierarchies and level of detail within its interface and file format. For an even cheaper solution, Fractal Design's Raydream Studio 5 costs less than $300 and offers a variety of plug-in modules for additional options.

Additional technologies
While the PC is an open architecture, there is a variety of SDKs available (many for free from the developing companies) that can make coding even less painful and make better looking games that work with more machines.

3Dfx's Glide, a rasterization library, is absolutely free from 3Dfx and allows for the use of certain graphics functions on 3Dfx Voodoo graphics cards within a game. Although companies like 3Dfx may not have the resources to fully support hobbyists, even the founders of the company have been known to offer advice and tips to amateurs via email.

Microsoft freely distributes its own DirectX SDK (a popular option in the professional development community) on its web site. The latest version, DirectX 5, will soon be available for developers of any level.
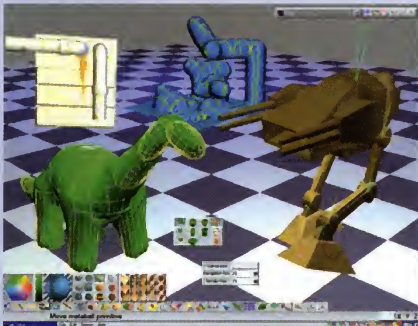
Both TrueSpace 3 for 3D modeling (above) and Paint Shop Pro for 2D touch-up (top) offer good, low-cost solutions

The

Despite the fact that games like *Quake 2* are sure to be great fun, to truly grow, the industry needs to give more support to underground-style games

W hen asked about the things that made his game development company a little different from most, Dave Taylor answers: "Well, to begin with, most companies wouldn't name themselves after a drug." The story of Crack Dot Com reads like a how-to manual for underground game development. Started from home, the company began with four people and a desire to give the industry the kind of games mainstream developers weren't prepared to deliver. Its first project, a game that made bad guys of the IRS, never saw the light of day, but did give birth to a company with an alternative mind-set and an eagerness to shake things up a bit. The second project, a side-scrolling shooter called *Abuse*, created enough of a stir in the shareware market to warrant the attention of publishing companies like Origin and Bungie. The game went on to be released in a traditional business model, but not without suffering some of the pitfalls of mainstream publishing.

"The better the deal you're trying to pursue, the more control they're going to take away from you," says Taylor. In an effort to

games. It's one offense for the industry to produce game after game in one of five or six strictly defined genres, but it is another matter altogether for consumers to line up to buy them. Gamers have an unquenchable thirst for stunning visuals to the point that actual substance has taken a backseat to flashy effects and high production costs. This is the one area in which underground artists of any type cannot compete. If consumers continue to give their support just to the games with multimillion dollar budgets, we're not likely to make creative, independent game designers feel very welcome. **Solution**: Theoretically speaking, this is the easiest problem of all to solve. If we want to encourage the growth of games with more substance than flash, then game buyers will have to let their wallets do the talking. But for most consumers and designers, it's not an either/or situation. There's nothing inherently wrong with a big-budget game production with tons of glorious special effects, amazing graphics, and

Golgatha, **Crack Dot Com's latest offering, is being created without any support from mainstream publishers**

Getting past the untraditional look of underground games such as *Princess Maker 2* sometimes pays off in a thoroughly original and satisfying gameplay experience

crack **alternative**

A few words with **Kazutoshi Iida**

His work with eclectic game publisher ArtDink attracted the attention of gaming's most open minds. Now, as Kazutoshi Iida, creator of *Aquanaut's Holiday* and *Tail of the Sun*, sets out to start his own company called Param, this visionary designer shares some ideas with **Next Generation** about his art — a true underground spirit talking about what he does best.

NG: Why is it important to create games that are outside of the traditional mainstream?

Mr. Iida: I don't dislike the mainstream games. However, the games that are presently being made are only trying to match the needs of the majority and that's boring. Game media has many possibilities, and I feel my job as an artist is to magnify those possibilities.

NG: If you wanted to, how difficult would it be for you to create games with more mainstream appeal?

Mr. Iida: Besides meeting the demand for "underground" attributes, art qualities, and the artist's style, I also aim for the mainstream. This is the reason why I'm working on a Nintendo 64 game right now.

NG: How discouraging is it for you to see the game industry churn out the same games over and over again?

Mr. Iida: I often do feel that it's hopeless, but I personally know some game creators who are challenging themselves to put as much value as possible into the games they're making. Their existence is my best encouragement.

NG: As a nontraditional game designer, what avenues have you been able to explore that a mainstream designer could not take advantage of?

Mr. Iida: Once I became successful, it was possible for me to personally control the production of my work without relying on game companies or their capital.

NG: Do you believe there is room for an underground (more artistic) movement in the game industry?

Mr. Iida: Creators have progressed and users matured, so I think there is room for an underground movement. Merchandise distribution, however, has become an obstacle for this movement.

NG: What are some of the specific challenges you've faced as a game designer?

Mr. Iida: Trying not to force unreasonable rules and goals upon the players and making games in peace. Also, just knowing that the attributes in my games are not typical but wanting to call them games has been challenging.

NG: Do you consider your games more like "works of art" or "commercial products"?

Mr. Iida: All of today's existing "works of art" are predominantly "commercial products." This is a prerequisite. I don't think "works of art" and "commercial products" are mutually exclusive.

NG: How much do you think about the potential sales of a game when you are designing it?

Mr. Iida: While making a game I don't think about it at all, but after I finish making it, I want it to sell well.

NG: Is it possible to be financially successful in the game industry if you're not creating mass-market games?

Mr. Iida: If they're small-scale products, I think you can be a financial success. Any game, no matter how different, has the chance to be a great commercial success. *PaRappa the Rapper*, *Intelligent Cube*, and *Gambare Morikawa-kun 2* are great examples of this.

NG: What kind of encouragement would you give to a young game designer looking to do something a little bit different?

Mr. Iida: My suggestion is to try everything. Make a game without precedent. That's what players are waiting for.
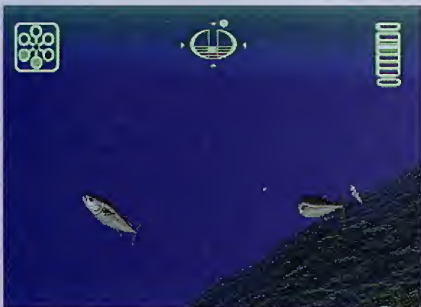
What *Tail of the Sun* (left) and *Aquanaut's Holiday* (right) lack in big production flash, they more than make up for in creativity and fun

Myst (left) demonstrated the potential of games as an artistic medium while **Populous** (right) clearly showed us that the industry is not too young to produce intelligent, nontraditional games

ear-shattering sound. These are the reasons people still line up every summer to see the latest action movies, and no underground movement has ever hoped to compete with that kind of frenzy. What can happen, however, is that the game industry and consumers can allow just a little bit of the market currently devoted to blockbuster titles to move to more innovative underground products. If consumers took a chance on just one nontraditional game every year instead of yet another mindless action game, the underground ball could get rolling.

Games just aren't art

Dilemma: A disheartening reason for the lack of a serious underground movement in game design is that most people still do not see games as a legitimate art form. Historically speaking, an underground movement is born from the frustration created by mass production tactics in an artistic field. The game industry has the mass production aspect down cold. What it has yet to show, however, is any particular dissatisfaction because of it.

Solution: This is another catch-22. How do we treat mass-produced mediocrity in terms of art? We don't. There are a few designers out there creating work that could easily be considered art (few though they may be). These are the designers that must be sought out and supported. And for game designers, these are the examples that must be followed. That's not to suggest that the way to create a nontraditional game is to copy another nontraditional game design. Quite the contrary. The way to create a nontraditional underground game is to go your own way just as others have before you. In the strictest definition of the word, even *Myst*, a game with true underground beginnings, represented a new level of art in games at the time. And though there were gameplay issues to consider, *Myst* still shows us how a few dedicated individuals can create an artistic offering in the game industry and find acceptance for their work.

The **industry** is too **young**

Dilemma: A less sticky point to consider when questioning why we have yet to see an

emergence of a true underground movement in the game industry is simply a matter of the industry itself being relatively young. Movies and music have been around a lot longer than electronic games and thus have had time to encourage growth in areas other than what the mainstream dictates. In comparison, games have yet to even establish a discernible standard, much less any alternatives.

Solution: No matter how young the game industry may be, it's never too early to open the door for innovative underground design. The industry was even younger when Peter Molyneux delivered the brilliantly conceived *Populous*. Hopefully, as time progresses, this industry will follow the same course as other artistic endeavors, but anything that can be done at this point to encourage this kind of development is a good thing.

How can I help?

Dilemma: At this point, people may be saying, "OK, I'm willing to get involved, but what can I do?" This is, of course, the toughest question of all. And it requires us to have to ask the question, "What would an underground movement in game design produce should it be given the chance to flourish (not that any underground movement has ever been given anything), and is this something we really want?" This is a question that can only be answered by creative thinking.

Solution: Be creative. Support others' creativity.

Final **analysis**

And so the line has been drawn. We absolutely need an underground movement in the gaming industry, and it's going to take some of most creative minds out there to make it happen. The only rule to remember is that there are no rules, and the truth is often found on the road less traveled. The independent spirit is alive and well in almost every form of popular entertainment known to humans, and it could and should play an essential role in the future development of the game industry. Let's welcome it with open hearts and minds and prepare ourselves for all that games can be.

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Come, all ye previews!

W hile the weather outside is frightful, inside this section are some delightful spring releases. *Grim Fandango* will have you hoping the warmer season comes soon.

See the **Next Generation Disc** for more information when you see this symbol

97

JetMoto2

Choose your

With ten treacherous new tracks, Jet Moto™ 2 isn't just a more intense, all-terrain racing game, it's a virtual graveyard. This time, you'll race through molten lava, splash down a waterfall and even maneuver your way over a broken-down roller coaster. You'll feel every bump,

PlayStation

JetMoto2

Grim
Fandango

From motorcycle gangs to Mexican folklore, the creator of *Full Throttle* brings us to "the land of the dead" for his next truly bizarre adventure
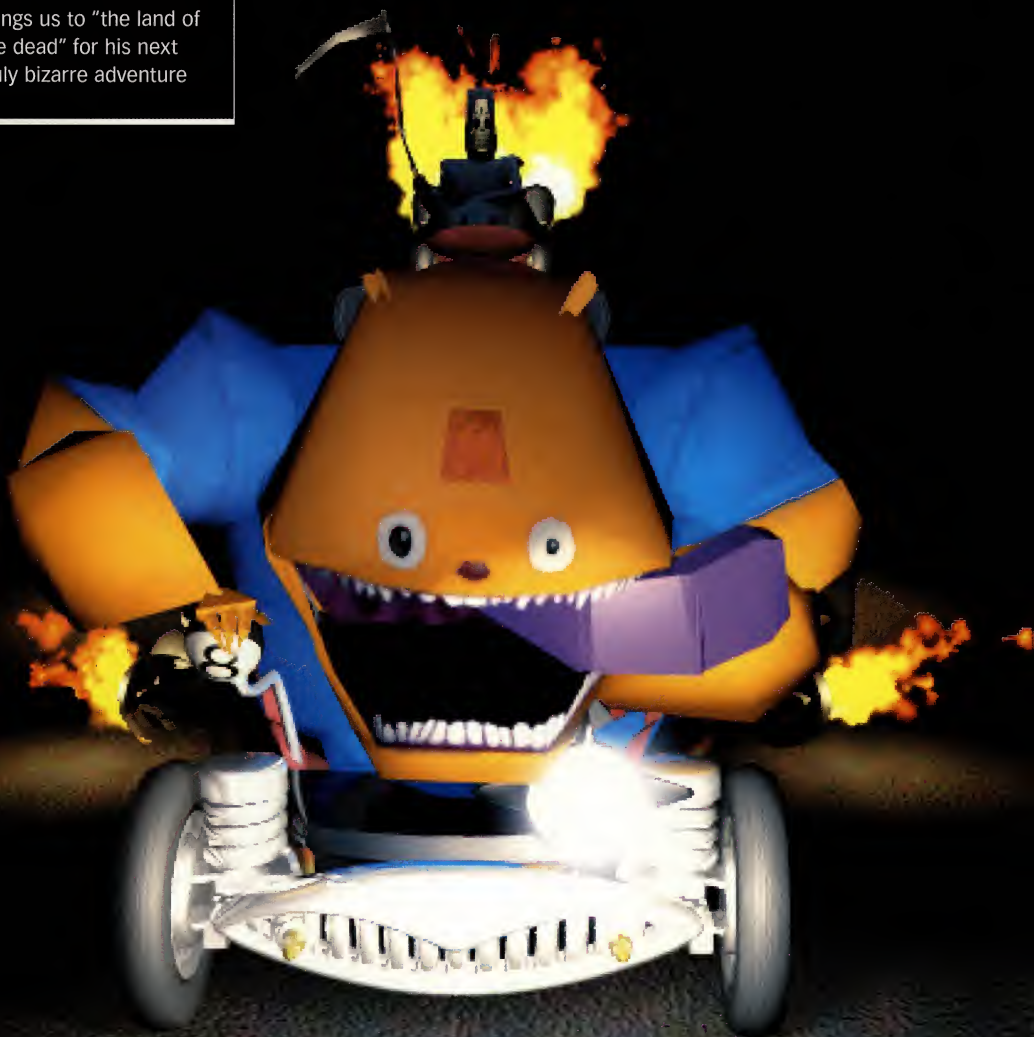
Format:	PC
Publisher:	LucasArts
Developer:	LucasArts
Release Date:	Spring 1998
Origin:	U.S.

T o the mass of lightsaber-headed gameplayers, LucasArts is "the *Star Wars* company and then some." For veteran LucasArts Producer Tim Schafer, and avid adventure gamers everywhere, life is all about the "and then some" products. Living in the looming shadow of the Death Star, Schafer has brought to light some of the better written adventures in recent years, namely *Day of the Tentacle* and *Full Throttle*. This spring, fans can look forward to *Grim Fandango*.

Schafer took *Full Throttle*'s biker protagonist Ben beyond the realm of the cliche videogame hero, and he takes the leading man even a step further in *Grim Fandango*. The bizarre story twists Mexican folklore and the Day of the Dead holiday (celebrated every year on November 2) with a film noir plot.

In *Grim Fandango*, players begin their quest in the land of the dead, as the former (deceased) Manny Calavera. "He's stuck there," says the soft-spoken Schafer. "The land of the dead is kind of a halfway point between the land of the living and eternal rest."

Schafer explains that in a spirit's quest to reach eternal rest, it must undergo this voyage, and Manny is stuck in this "sort of purgatory state" because of something he did during his life. Working as a travel agent (read reaper) in the land of the dead, he is involved in arranging

Manny's a 250-polygon model, and other characters fall in the same range

transport for other souls to the land of eternal rest. Unfortunately, he's getting poor-quality customers, and after stealing the lead on a better client, he unwittingly becomes implicated in a crime ring in the land of the dead.

"He commits this little sin," Schafer says "and gets involved in this big, dark underworld that he wasn't aware existed before. Sort of an underworld inside the underworld."

Schafer admits that the story, which spans four years as opposed to a few days in the life of a character, is the most ambitious he's tackled thus far. "It's like a four-year road trip," he says. "At each transition between years, he changes jobs, changes costumes, his personal relationships change — he develops a real sort of buddy movie feeling with his sidekick Glottis, the demon driver of the underworld."

The longer storyline was inspired in part by the need to build in more puzzles, since *Full Throttle* was greatly criticized for its brevity. "When people said [*Full Throttle*] was too short, it definitely mattered a lot to me," Schafer says. "My response was to count up the number of puzzles in *Throttle* and then double that, and aim for that as a goal with a new design."

While hesitant to reveal any information on the puzzles, Schafer characterizes them as strange ones. He paints a scenario where players must retrieve the heart of their sidekick Glottis,

The undead come alive with animations choreographed to match dialogue
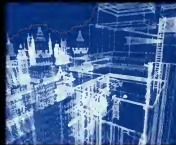
The team built 90 sets for the game; each room or exterior environment equals a set

which has been carried off by flying spiders. "The puzzle involves getting the heart out of the web," Schafer intimates. "Graphically, it comes off as being really surreal. Just this still-beating heart pumping away in the middle of this web, with these tarantulas with bat wings climbing all around."

Unlike Sierra's fully 3D adventure, *Mask of Eternity*, *Grim Fandango* boasts a strange cast of 3D characters set against prerendered backgrounds. An early game demo already displays a very high level of detail and an overwhelming sense of thematic continuity among the characters — characters who are modeled after the papier-mache figurines of the Mexican Day of the Dead.

"I saw them one time on TV," says Schafer of his inspiration, "and I began thinking how great it would be to see an entire world made up of those kinds of characters. I thought it would be a nice achievable art style in 3D, and that's how it started."

But Schafer admits that since that moment of inspiration, which happened even before he began *Full Throttle*, 3D has become so much more powerful. "The biggest thing, I would say, about going to this type of environment," Schafer says, "is that you can change the camera angles.

Use of 3D with dynamic lighting makes this projection effect possible

Before, we had to always have the floor visible so you could click on it and walk the character there. Now the floor doesn't have to be in the shot — you can put the camera anywhere you want, and it will just render the character there."

Lead Programmer Brett Mogilefsky admits this wasn't so easy at first. "This is a case where you have a combination of 2D and 3D," he explains. "Reconciling the two and getting the art path clean has been a pretty big chore."

The four-man programming team has had to develop most of its own tools and has abandoned its traditional SCUMM (Script Creation Utility for Maniac Mansion) engine in the leap to 3D. SCUMM was created for *Maniac Mansion*, and it has been modified for every adventure game project since. While this historic piece of code has been retired, some of the technology used in *Outlaws* has been

In the morgue (above), two characters have "sprouted," a ghastly and floral form of death in the land of the dead

System requirements have not been set, but to get these kinds of graphics, players will probably need a Pentium 133

The whole "land of the dead" theme is played out to the fullest, as seen at this street fair (above)

recycled for *Grim Fandango*, and the team has taken *Jedi Knight*'s low-level render droid rasterization module and customized it for its own use.

And the new technology has provided some payoffs. For one, Mogilefsky notes that Manny's head can move independently from his body, so players can see him looking at things. Almost like a help mechanism, his head tracks to the hot objects in a room when near them. Also, the video caching system can handle a mix of different 2D and 3D data. This enables the artists to synchronize choreographed limb and head movements with animating facial textures, making for far more realistic dialogue.

On the subject of speaking, the voice-over cast isn't fully set, but in keeping with the theme, all the dialogue will be voiced by Latino performers. "It would just look silly otherwise," Schafer says.

The interface isn't quite complete either, and Schafer hopes to make it even cleaner than the one in *Full Throttle*. "I think that tricky interfaces," says Schafer, "are what keep mainstream audiences away from some computer games." Ultimately, he's shooting for something so intuitive that there's nothing on the screen to distract players from the game world. In a very early demo, Manny moved throughout the world via the arrow keys. With no need for a cursor to nose him along, this movement suggested natural compatibility with a joystick or control pad. When **Next Generation** brought this up, Schafer seemed keen on the idea.

"In other [kinds of] games," says Schafer, "people don't have to put up with the weird controls, arcane inventory systems, or slow motions. They're used to snappy games. There's no reason that adventure games have to be slow and lugubrious and just tedious to play. There are all these things that people have accepted about adventure games, but I think you have to look outside the genre."

With this kind of vision instilled in Schafer's titles, it's no wonder they've drawn crowds. And if *Grim Fandango*'s early milestone is any indication, it may set an attendance record. **ng**

As they lack skin, the dead frequent scrimshaw parlors for a tattoo

An interview with
Tim Schafer

T im Schafer's demeanor suggests comedy writer before game designer. His soft-spoken voice carries in its undercurrent a coy, dry wit. This eight-year veteran of LucasArts isn't about beating you over the head with his vision. His titles, *Day of the Tentacle*, *Full Throttle*, and soon *Grim Fandango*, speak for themselves. Yet he still managed to find a few words about himself for **Next Generation**.

NG: How did you get started with LucasArts?

TS: Totally by accident. I was playing with computers ever since I was a kid, but I never thought I'd work in games. After college, I just happened to see this job listing for computer programmers who were interested in writing, and I always thought I'd be a writer. So I came in, and the job was to help wire scenes together for *Monkey Island*.

NG: Many graphic adventures lack solid story content and character development. Yet yours succeed on this level.

TS: Well, in the entire gaming industry there's not a lot of quality writing. I don't think that writing is really even valued. I mean, in the old days, the programmers did almost everything. Now, programmers are programming but still doing a lot of the writing. More and more there is a call for actual writers to work in games. I think this will improve the level of character development we see in stories.

NG: So stories are becoming more important?

TS: People tend to think that you don't need a story in action games, but every game has a story. I mean, *Space Invaders* has a story. All these guys are landing on your planet — shoot them. I mean, that's a good story — that's a solid story.

NG: Have you ever considered working on a *Star Wars* project?

TS: Well, it's one kind of challenge to try to make up something that fits in the *Star Wars* universe, and it's just as hard in a lot of ways

to come up with material when you don't have any limitations like we do. I don't know if I could do a *Star Wars* game. There's so much you have to keep track of, so much history to honor, that I don't know if I could do it.

NG: So you need complete creative freedom?

TS: Yeah. I mean, if someone told me there can't be any jokes in the dialogue, I might end up with a writer's block and unable to really perform. So it's not to say that it's easier to do a licensed property, but for me, it's easier to do original properties.

NG: You've been with the company eight years. What have some highs and lows been?

TS: It was easy in the beginning because I wasn't the project leader. I'd come in and write silly jokes for *Monkey Island*. I think the lowest point was trying to come up with an idea for my own game the first time. Just to get to the point where I was able to say, "OK, I want to do a biker game" was really, really hard. And then I had to convince other people that a biker game was a viable project.

NG: So pitching *Full Throttle* was difficult?

TS: The biggest challenge is to have a really strange idea and get people to buy into it, get people excited about it. Because if it's easy to sell it to people, then it's usually because the idea has been done before.

NG: So are you already thinking about what's after *Grim Fandango*?

TS: I have an idea, but it's not really a finished idea yet ... But it gets easier and easier to get approval as you get more of a track record. Often times people outside the company say, "I have an idea. Why can't you make a game out of this?" The truth is, in general, the games aren't made because of an idea but because a team that is going to be developing a project is often given some trust by management.

If it's easy to sell to people, it's usually because the idea has been done

Vigilante 8

The muscle cars of *I'76* meet *Twisted Metal*'s gameplay. Can Activision do it better than Sony?

Format:	**PlayStation**
Publisher:	**Activision**
Developer:	**Luxoflux**
Release Date:	**Q1 1998**
Origin:	**U.S.**

Six weapons are interchangeable for all 12 cars, including machine guns, mortars, and mines. Each car also has a special weapon

Split-screen modes can be switched on the fly — vertically or horizontally

L ast April, Activision released the fairly popular *Interstate '76* for PC. Set during 1976 in an alternate history, this mission-based driving game put players in the role of an "auto vigilante," consumed with saving the American Southwest from gas-hoarding bands of criminals.

Almost a year later comes *Vigilante 8* for PlayStation. And while it borrows several locations, characters, and vehicles from *I'76*, it is the furthest thing from a port. "The gameplay is arena-based," says Activision Associate Designer Bryant Bustamante. "Something we found through focus testing was a lot of these gamers didn't want a mission-based game."

Subsequently, the gameplay is more on par with the vehicular combat of the *Twisted Metal* series. In the main story mode, players choose from one of 12 characters, each linked to an individual car. Players must then successfully survive battle in a preset path of six arenas before getting their characters' ending sequences. There are a total of twelve different arenas,

ranging from oil fields to the slopes of a ski resort to the Hoover Dam. In the arcade mode, players can take any car into any level.

The storyline for *V8* is actually a prequel to *I'76*, taking place in 1975. "The idea is that an evil consortium wants to cripple the U.S. economy," says Activision Producer Murali Tegulapalle, "so they offer $100 million to anyone who can shut down the Southwest and destroy the oil refineries."

Enter Antonio Malochio and his band of "Creepers" (Malochio is the bad boss character from *I'76*), who attempt to destroy the oil fields. Convoy, who leads the Vigilantes, must prevent this from happening. Players can choose to play one of six Creeper or six Vigilante roles.

"Now to add a little twist to the game," Tegulapalle continues, "we've allowed these two groups to raid a

Car models are roughly 140 to 170 polygons, but the high-res textures keep them looking hot. Up to five enemies may engage you at one time

truth — every 3D model in the game is destructible. **Next Generation** destroyed oil reserve tanks, oil derricks, big buildings, planes, and a ski gondola during its demo, some of which revealed power-ups of many kinds. "We even have terrain deformation," Tegulapalle extols, "so if I launch a projectile and it lands on the ground, it actually causes a crater and that crater causes some damage to cars that go over it."

Tegulapalle explains that this technology works out nicely for the designers, who are using it for burying Easter eggs within the game. "If you see a sand dune you think you can destroy," he says, "launch a lot of rockets at it and it'll actually start to crumble down, and you'll find a secret area with some power-ups."

But perhaps the most remarkable aspect of the project is the fact that the development team consists of just three people. Santa Monica-based Luxoflux hasn't received any supporting code or technical assistance whatsoever from Activision's internal teams. "They are actually individuals

secret military base in the Southwest. Since they've acquired these advanced technology weapons, we can make the game's weapons and special effects over-the-top."

Visually, V8 is already primed for the job. "We're using a very fast, proprietary 3D landscape engine," says Tegulapalle. "It affords us a lot of cool features — a primary example is that the environments are totally destructible."

Tegulapalle is not stretching the

While this "car select" interface is a placeholder, fans of *I-76* will immediately recognize these Vigilante characters and their unique muscle cars

A car carries up to five weapons. When a weapon is out of ammo, it notifies the player by falling off of the vehicle

who worked on separate console products for Sega," Tegulapalle says of the trio. "This is their first ever PlayStation title and first ever game as a team."

Luxoflux has rewritten all of the libraries except ones for which Sony does not supply information regarding direct hardware access. Given this level of dedication, it's not surprising these talented newcomers have managed to incorporate two physics models (arcade and realistic) and realtime reflection-mapping on the windows and windshields, as well as enable a fairly sophisticated damage model, all while maintaining a 30fps rate in one-player mode — even before beginning code optimization.

While already a contender for the driving/combat crown, it is a bit unfortunate that Activision didn't risk a mission-style game on PlayStation, as the system has yet to receive a quality one. However, with the fierce level of competition on PlayStation right now, and with royalties and marketing costs being what they are, no third party will dare take a chance on games that fall outside proven genres. Especially Activision, which will miss Christmas with two big-budget PlayStation titles, *Pitfall 3D* and *Apocalypse*. Fortunately, *Vigilante 8* shows promise and should stay locked on target for release this spring.

Each arena is scaled to approximately sixteen square miles

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Gran **Turismo**

The *Motor Toon* design team quits its funny business long enough to create an extremely ambitious (try 87 real cars) racing game

To look at it, one would never guess that *Gran Turismo* is based partly on the *Motor Toon* game engine. However, the smooth control, high frame rate, and overall graphic excellence give it away. There's something to be said for using an engine that's been refined over four years

Although PlayStation is glutted with racing games, it's discouraging how slowly the genre has evolved on the system. However, one bright spot has been the *Motor Toon* series. Although more popular in Japan than in the U.S., beneath the deceptively cute surface lies crisp control and graphic excellence, pushing the PlayStation's technology further than the vast majority of "realistic" racing games.

Currently the *Motor Toon* team, led by Kazunori Yamauchi, is at work on *Gran Turismo*, its first racing game modeled after real cars and courses. "I first came up with the concept of *Gran Turismo* five years ago," says Yamauchi. "What I wanted to make was the ultimate racing game that was all about motor sports and automobile culture. From this perspective, I tried to incorporate as many cars from as many automobile makers as possible in this game, to give it an encyclopedic aspect as well."

In this, the designers have succeeded. *Gran Turismo* features 87

Players can even buy used models if they're strapped for cash

Format:	**PlayStation**
Publisher:	**SCEA**
Developer:	**SCEI**
Release Date:	**Q1 1998**
Origin:	**Japan**

different cars from 11 automakers, including Honda, Toyota, Mazda, and Nissan, and also U.S. and European models from the likes of Chevrolet and Aston Martin. The roster favors the kind of small, fast, sporty models the Japanese are fond of, and the game will allow the player to modify them in almost any way imaginable, offering 128 customization options in eight different categories.

For "testing purposes" (ahem), the design team rented some 30 different models of sports cars and ran them on a professional circuit, although Takeshi Yokouchi — described by Yamauchi-san as "a young and crazy programmer" — did crash one. However, the developers did further refine the game engine and tuned the performance of the game's cars

It's not as if players aren't given enough options. In addition to ten tracks, there are 128 ways to modify the cars

based on their real-world experience. "The program is different from *Motor Toon*'s," Yamauchi explains, "but we used part of it. The physics model is the same, and the person who made the physics algorithms is the same person. In fact, the *Gran Turismo* team started before *Motor Toon 2* was released, and after that was finished, the simulation programmer and other designers joined the team. In part we used standard PlayStation libraries, but for many parts requiring speed, we used assembly code."

Another innovation is the use of environment-mapping, a process created by the aforementioned Takeshi "crazy programmer" Yokouchi. "I think this is the first time ever for a game on PlayStation," Yamauchi boasts. Environment-mapping is a way of generating reflections that appear to occur in real time, but it puts less strain on the CPU. "It is necessary in order to reproduce a car as a car," Yamauchi explains.

And despite the claims of others, Yamauchi insists that PlayStation still has a lot of life in it. "The PlayStation peak is very high in terms of the performance triangle. I believe we can still make games better, and we have not reached the limits." He does, however, acknowledge some restrictions. "For each car, the physics model required some heavy calculations, not only for your car, but for the enemy cars. Since half the CPU time must be dedicated to drawing and AI, there were only enough CPU cycles left for six cars. At the beginning we wanted to do 12."

Yokouchi had his own problems. "Since the PlayStation controller is digital,

The *GT* team, with Kazunori Yamauchi (center), physics programmer Akihiko Tan (far left), and car crasher Takeshi Yokouchi (seated left)

it was difficult to make the models move with it," he says, "but we also plan to support the analog controller."

Despite these minor setbacks, the team has created a beautiful game. Given the dead-on mechanics of its previous two titles, along with the incredible number of cars and options, it certainly has more than a little potential. "I see *Gran Turismo* as a racing game operating system," Yamauchi concludes. "If you change some of the rules, design new courses, and if you tune everything, it becomes possible to make any kind of race. For instance, in this game, only road racing is possible, but it would be possible to change it and make it rally racing. Progressively, the game will improve. I want the game to become an OS for racing games like Windows 95 is for computers."

Lighting for each course varies with time of day and season. Yamauchi explains, "For the same corner, the player will have a different impression each time."

Burning Rangers

In its time of need, Sega looks to Yuji Naka and the Sonic Team for another wholly original and exciting Saturn title

Finding fallen victims is the goal of the game

Format:	**Saturn**
Publisher:	**Sega**
Developer:	**Sega (Sonic Team)**
Release Date:	**Q1 1998**
Origin:	**U.S.**

Armed only with a jet pack and a fire extinguisher, these courageous heroes must enter the dangerous environments of *Burning Rangers* and get things under control
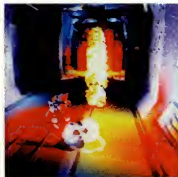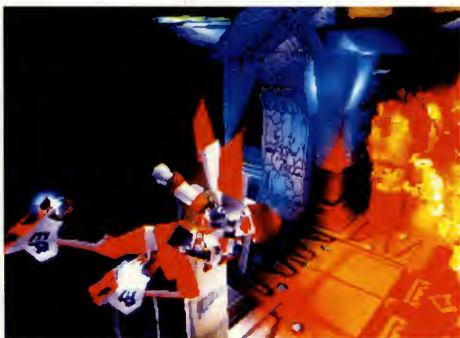
The most dangerous threat in the game comes from the hot spots that erupt into flames

Master creator Yuji Naka was recently quoted as saying, "This time we wanted to make something really different." And so from the man already responsible for creating *Nights*, one of last year's most original titles on any platform, comes something really different — a game called *Burning Rangers*.

Although the game is based on the *Nights* engine, the gameplay is a stark departure from last year's rail-based fantasy adventure. Gone are the invisible boundaries that led Nights through his world; in their place are intricate 3D environments where characters are free to explore at will. But the shift to unbounded 3D is probably the least exciting aspect of this project.

In *Burning Rangers*, players choose from five futuristic, firefighting heroes. The

characters find themselves in the chaotic and dangerous environments of a burning building. Only the building isn't something as simple as a house or office complex, but rather a virtual maze of futuristic corridors and hidden spaces. And the building isn't simply on fire, as in

Dramatic graphic and lighting effects are used to give the gameplay an extra sense of urgency
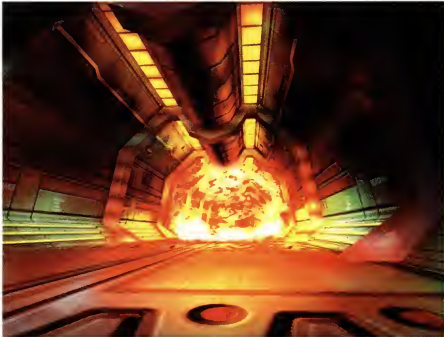
These rendered images illustrate the effect the Sonic Team is looking to capture in the gameplay itself

One important aspect of the game is the cooperative play between playable and nonplayable characters

one or two rooms filled with flames, but rather a series of constantly erupting pockets of flames that seem to have a devious mind of their own. In fact, the fire itself could easily be described as having Artificial Intelligence. And certainly the biggest dangers are the lightning-fast explosions, preceded only by a momentary whisping sound (a la the movie *Backdraft*) and then boom, the character is engulfed in flames or being hurled backwards through the air.

And as if fire isn't enough, the building is also thrown into constant turmoil from earthquake-like tremors and structural collapses. To help navigate the virtual inferno, characters are equipped with jet packs, which allow them to make what amounts to extended leaps through the air. The jet pack is best used to jump over missing sections of the floor, as well as gas-fueled flames and anything else that may impede progress through the building and stop players from achieving the ultimate goal of the game: rescuing fallen victims.

One of the game's other lead creators, Noato Oshima (a long-time partner of Yuji Naka), recently suggested, "We prefer the helping concept better than the killing one." And helping is what the game is all about. Equipped only with a jet pack and a concussion-type fire

extinguisher, characters must enter the perilous environment in search of victims who have fallen prey to smoke inhalation and are in desperate need of rescue. But unlike most game designers, who would have been more than happy to simply scatter the victims throughout the levels

The futuristic, mazelike environments serve as a perfect setting for the fast-paced and chaotic gameplay

and let players memorize their locations after playing a couple of times, the Sonic Team has incorporated a randomizer so that victims are never in

All of the five playable characters come with their own brand of firefighting power

the same place and the game is never quite the same experience.

Also built into the challenge of rescuing victims is a unique voice-guided navigation system. As opposed to simply wandering throughout the complex environments looking for victims to rescue, the player can listen to vocal cues from victims and NPCs to help pinpoint their exact locations and make the best use of their firefighting/rescue efforts. This, combined with highly realistic sound effects, should make for an extremely rich aural experience, even without background music tracks, which are not currently planned for the actual gameplay.

A final challenge are the mechanized enemies strewn throughout the levels. As if the flames, tremors, and generally

explosive nature of the environments weren't enough to shake most players, the game also features huge mechanized enemy characters that trap players in enclosed spaces and then proceed to blast away with their futuristic arsenal. Although fighting these enemies is not the focus of the game, it does highlight some of the game's strong use of lighting and advanced graphic effects.

And so what will *Burning Rangers* mean for Sega and Saturn? It's unlikely that this or any game will create a dramatic turning of the tide in the 32-/64-bit console race as we know it today, but *Burning Rangers* should represent a giant good-faith effort on the part of Sega for its loyal fans. *Burning Rangers* also re-establishes the idea that Sega is, at times, able to deliver "Triple A" software not born in the arcades.

Although *Burning Rangers* uses the *Nights* engine, the look and feel of the two games couldn't be much more different from each other. Where *Nights* strove to create an atmosphere of dreamlike tranquility, *Burning Rangers* is all kinetic action. The only real connection is the immense imaginative power used to create each game's world

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Sentinel Returns

Reviving classic games is never easy, and millions of fans are sure to be watching as Hookstone brings *Sentinel* into the '90s

Hookstone has been careful not to stray too far from the blueprint set by Geoff Crammond some ten years ago

The trees of the original game have been replaced by gray spikes

I n conversations about retrogaming, there's one title that often gets mentioned as being at the top of the "most wanted" list. An update of the 1987 C64 game *Sentinel* is as coveted as *Virus*, *Stunt Car Racer*, and, inevitably, a multiplayer version of *Elite*.

For the uninitiated, looking back on the old *Sentinel* leaves few clues as to why its popularity has endured. The graphics, though impressive in scope, look spartan. Amazingly for that time, the game had no central "character" and an abstract premise that saw the player negotiating 3D landscapes by transporting from one spot to another, all the time avoiding the energy-draining gaze of the slowly rotating "sentinel." Not the easiest of concepts to grasp, but for those who gave it a chance, *Sentinel* did become an obsession. And now, industry veteran John Cooke is hoping to answer a few prayers by bringing the game into the '90s with *Sentinel Returns*.

Cooke's company, No Name Games, holds the rights for any spin-offs relating to Geoff Crammond's masterpiece and has teamed up with developer Hookstone to deliver PlayStation, Saturn, and PC versions

to publisher Psygnosis. But tampering with classics can be a risky business. *Sentinel* is so fondly remembered that *Sentinel Returns* will have to be an incredible game in its own right. It's a tightrope walk

Format:	**PC/PlayStation/Saturn**
Publisher:	**Psygnosis**
Developer:	**Hookstone**
Release Date:	**Q1 1998**
Origin:	**U.K.**

between originality and faithful reproduction that Cooke believes he can negotiate.

"We took a conscious decision to not deviate too much from the original. We felt that the gameplay wasn't flawed in any particular respect, but it needed refining. For instance, the learning curve is too steep, then flattens out too quickly. We've redesigned the levels and made sure that it's easier to begin with then becomes progressively more difficult — much harder than *Sentinel* ever was."

The PC version (shown here) retains
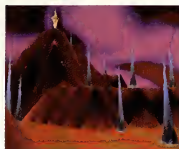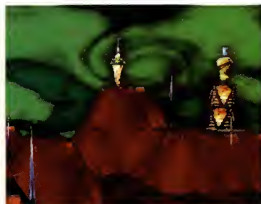
The strange and surreal landscapes are akin to a chessboard

much of the graphical style of the original while making allowances for the obvious technical advances of recent years. *Sentinel Returns* will support hardware acceleration, although this will only be needed to smooth textures. Frame rate is unlikely to be an issue, as Hookstone has chosen, perhaps wisely, to retain the original's halting scroll method, allowing the player to turn only very slowly.

"We've retained the claustrophobia by deliberately slowing the scrolling down," explains Cooke. "This is not a shoot-'em-up! Part of the sweating panic you feel when you've been scanned and slowly drained of your energy is struggling to look around for an escape route, some trees, anything …"

To help create that claustrophobic atmosphere is a soundtrack from none other than movie director John Carpenter, who, as it turns out, knows someone who knows someone who knows Cooke. The only thing missing, it would appear, is Crammond himself, but Cooke believes there's enough innovation to keep everyone happy, including a multiplayer network option for the PC version.

Thankfully, unlike the original, *Sentinel Returns* won't feature 10,000 levels. Instead, there will be "just" 666. The difference will be negligible in terms of difficulty, however, as *Sentinel* allowed players to skip as many levels as there were energy units remaining at the end of each battle. This has been left out of the sequel, which allows players to progress at the steady pace of one level at a time. There should be a pretty impressive end-game sequence once players conquer the final level, The Void.

"I am probably the only person in the world," says Cooke, "to have finished the original game twice. When I got to the end, I expected some kind of mega graphics fest, but it simply clicked over to level one! Gutted, I called up Geoff Crammond and demanded an explanation. The answer was classic Crammond: 'You finished it? I never thought anyone would be that stupid …'"
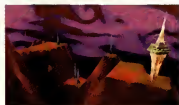
The swirling skies and filtered textures bear the trademarks of hardware acceleration, but it's hardly needed in this slow-paced war of nerves. Also notice that the distinctive squares of the original game have been retained, although the landscapes have been updated

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Requiem

The game's engine provides direct support for 3dfx's Voodoo chipset and will probably support OpenGL, as well as one or two other accelerators, and (maybe) Direct3D

Cyclone Studios throws its hat into the slowly growing genre of first-person adventure games

During the time **Next Generation** profiled Cyclone Studios (**NG 28**), the company had barely begun production on *Requiem*. Since then the title has come a long way, and as it heads into its final six months of development, **Next Generation** stopped by Cyclone to check on the progress of this unique first-person game.

To recap, *Requiem* falls into roughly the same category as Valve's *Half Life* or Ion Storm's *Daikatana*: a first-person game that combines action with graphic adventure elements. "We really wanted to push the idea of a realistic world," says Kerry Moffitt, *Requiem*'s director whose business card lists his title as "Hacksmith." "So there's lots of random conversations that just happen around you, having nothing to do with you. But probably most important is that you don't just shoot everything that moves. You have character interactions. You'll be exploring and finding objects and you'll need to find out how to use those objects, much like the later *Ultimas*, *Zork*, and *Phantasmagoria*. Gameplay should be roughly half interaction and exploring, and roughly half straight combat. It's a very delicate balance, and there's a huge potential to make it not fun for either, so we're being careful to make sure it's very well-balanced."

One thing *Requiem* stands out for is

its unique backstory: Aside from Shiny's *Messiah*, it stands practically alone for being based on Christian mythology. Says Evan Margolin, creative director at Cyclone and head of the *Requiem* project: "The original concept for *Requiem* was very secular in nature. There was going to be this group of army or ex-CIA guys going around doing these terrible things. But that changed when someone brought up *Paradise Lost* by Milton, and we all got excited by this idea about a war in heaven. So of course I ran out and got the Cliff's Notes!" he says, laughing. "And once we actually understood the poem, we were all kind of moved by it. It was a really interesting story and will bring all these supernatural elements into the game and add this compelling idea of angels on Earth. It was so far beyond where we were before, suddenly the original idea didn't seem as important."

The game takes place after the second war in heaven. The player takes the role of the angel Malachi, sent to

Believe it or not, these characters are from a game featuring angels

Format:	PC
Publisher:	**Cyclone Studios**
Developer:	**3DO/Cyclone Studios**
Release Date:	**June 1998**
Origin:	**U.S.**

In keeping with its apocalyptic vision, the game's production design is dark and gritty

Multiplayer support is planned, and players can either melee in the city or in one of several levels specifically designed for deathmatches

The player's character Malachi joins a resistance group opposed to the Fallen. An early mission involves freeing a comrade

Earth by God to stop the Fallen Angels from breaching the barrier that separates Creation from Chaos and releasing demons to destroy mankind. Although in human form, Malachi retains many of his angelic powers, and gains more during the game. For instance, players might battle a Fallen, banish it back to God, and obtain its powers. Powers include abilities like flight, possession, and mind reading, but also more destructive things like lightning, blood boil, and the ever-popular "pillar of salt," which causes enemies to crumble slowly into a shower of particles — an impressive effect that has to be seen to be appreciated.

"One of the things we're pretty proud of is the rigid body animation system," says Assistant Director Phil Co. "It's actually kind of a hybrid system — some polys are soft body polys, and we use those on joints and so on, but it's primarily a skeletal-based system. This means we have lower memory requirements for the animations, so we can have lots of them and make nice smooth transitions. It also allows us to do things like blow off limbs."

In fact, like the random background dialogue, there's a fair amount of random brutality going on that has little to do with the player. "This is definitely going to be much more of an R-rated movie kind of experience," says Tuesday Uhland, PR mouthpiece for Cyclone. "The language is pretty strong, but besides the swearing, Helmut Kohl [president of Cyclone] really wants you to land on Creation naked, so you start with nothing and have to go and find everything, including clothes."

"Well, maybe you'll start with a fig leaf," Moffitt jokes.

Margolin has his own spin. "My dream is to be able to get one of the newsgroups to begin a discussion about Milton," he says, smiling broadly. "If I could just call up, say, rec.games.pc or whatever and see a thread on Milton, that would be a dream come true right there!"

Enemy designs are strange and different — this critter even scuttles along walls and ceilings

Men in Black

Following *Goldeneye*, this may be the second movie-based game of any merit

Expect to see all the film's weaponry, from the Series 4 De-Atomizer to the powerful Noisy Cricket, which knocks the wielder backwards

Format:	**PC**
Publisher:	**The Design League**
Developer:	**Gigawatt Studios**
Release Date:	**Spring 1998**
Origin:	**U.S.**

Hot on the heels of the movie-based hit *Goldeneye* and licensing disasters *Independence Day* and *Fantastic Four*, Gigawatt's forthcoming movie-based title deserves the utmost scrutiny.

"We easily could have created a first-person shooter," explains David Koenig, executive producer of *Men in Black*. "But why do that? We have recognizable characters that would work much better in a third-person game."

Given a cursory glance, *Men in Black* could easily be dismissed as a *Resident Evil* rip-off. Yet beneath the surface lies a game that blends the play control of Capcom's zombie fest with the puzzle elements of *Tomb Raider*. Add to that a dash of the movie's humor, and you have a well-rounded, if not unique, concept.

Based entirely on the *Men in Black* universe, players can control the three distinct (if you discount the identical suits) characters, all with their own look, feel, and sound. Since ammunition is rather limited in the game, hand-to-hand combat is frequent, and each character's method of attack is different. Agent J (played by Will Smith in the film) is primarily a street fighter while K (Tommy Lee Jones) is more of a pugilist. Players can also select Agent L (the first female MiB), whose style blends several forms of martial arts.

While the game does seem rather

short on locales, the few that exist are rather varied. Players will visit New York, the Amazon Basin, the Arctic Circle, and MiB headquarters in the course of the game. And missions aren't always of the "shoot everyone and everything that moves" variety; in the Amazon level, there are guards with large weapons that discourage any attempts at the gung-ho approach. There are also several characters whom players must negotiate with, or exchange items with, to proceed.

Many of the aliens from the movie make appearances in the game. And with a license to use likenesses of the film's actors as well, the digitized voices are similar enough (especially in the case of Agent L) to evoke instant recognition.

Men in Black is capable of giving licensed games a much needed shot in the arm. Perhaps the so-called marketing gurus within the game industry have finally realized that a quality product is more important than one with a big name that is rushed and flawed.

As in *Res Evil*, *MiB* puts polygonal characters in prerendered locales
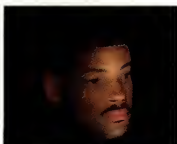
For realism, the actors' faces have been texture-mapped onto the models

If you're playing games on a TV, you haven't played them yet.

Elric the Necromancer

Format:	**PC, PlayStation**
Publisher:	**Psygnosis**
Developer:	**Haiku Studios**
Release Date:	**Spring 1998**
Origin:	**U.S.**

Psygnosis' European development team proves that not all games from France have to be bizarre and surreal

F rom what **Next Generation** has seen of *Elric the Necromancer*, the moniker "bastard child of *Diablo* and *Legacy of Kain*" isn't exactly false.

But don't tell that to Producer Reza Elghazi. "We think only the technique of visual representation can be compared to *Diablo*," says Elghazi. "That being the use of the isometric view. However, in *Elric*, this technique has been fully adapted to realtime 3D in order to have a wide range of varied backgrounds and lots of software-based lighting effects. Moreover, the use of the isometric view allows us to create a game that is really built on different levels, with a real notion of height — something that is really not found in *Diablo*, and certainly not in *Legacy of Kain*."

Elghazi is right, in a sense. While *Diablo* was an RPG in name only (more of a "Click on monster until dead. Repeat.") and *Legacy of Kain* was mostly *Zelda* with bad acting and gallons of blood, *Elric* is a beat-'em-up/platformer, pure and simple.

But Haiku proudly admits that the game is rather basic. For instance, players can attack, parry, cast spells, and jump, among other things. Parrying will occur automatically because the developers wanted to limit the number of buttons to press when using a four-button PC pad. The bosses are enormous, and in keeping with classic platformer tradition, will challenge players to find their weak spots and exploit them. "As an example," Elghazi explains, "there is one boss you can only kill by destroying him with his own spells. The boss room contains adjustable mirrors, and when the boss shoots, you have to arrange the mirrors so that the magic rays are diverted back

to the boss."

This certainly sounds familiar — *Mario* and *Link* have been using these tactics for years. The quest is also rather traditional. The main character Elric, star of many volumes of fantasy author Michael Moorcock's work, must chase his demon cousin Yrkoon, who has (yawn) kidnapped Princess Cymoril, Elric's betrothed. To save her, players must (snore) find the eight pieces of the Cross of Chaos, scattered across different worlds. These worlds vary in a very Miyamoto-like way: There is a lava level, an ice palace, a swamp, a forest, and many others.

In the end, *Elric* seems more like *Mario* stuffed into the body of *Diablo*. That suits **Next Generation** just fine; it's refreshing to see something that isn't a first-person shooter or realtime strategy. But whether or not gamers will embrace a console-style product on PC remains to be seen. ng

Dazzling special effects done in software are a strong selling point for *Elric the Necromancer* from Psygnosis
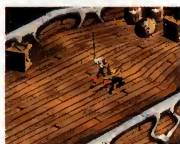
Based on Michael Moorcock's fantasy series, *Elric* draws from a deep well for its backstory

Though the game bears a striking resemblance to *Diablo*, the gameplay is guaranteed pure action, not RPG

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PlayStation™

Twisted Edge
Snowboarding

After delivering with *Top Gear Rally*, Boss and Kemco are taking 64-bit success downhill and fast

Big air (above) is set to be a prominent feature. At this point in production, character models feature between 460 and 620 polygons

A one-player game pits you against three CPU riders. Players can effectively bump other riders (as in auto racing), but it's unlikely the team will incorporate any kind of combative moves

Boss' *Top Gear Rally* certainly earned the honor of being the first quality auto racing game available for Nintendo 64. So it was good to hear Colin Gordon, vice president of product development at Boss Games, tell **Next Generation**, "We wanted to take a lot of technology that we had developed in *Rally* and apply it to a game with *Wave Race* style — more fun, more jumps, more stunts."

The result is the forthcoming *Twisted Edge Snowboarding*, and as Gordon mentions, the team is more inspired by *Wave Race* than it is *Cool Boarders*. "The goal is to achieve something that feels like you're snowboarding," says Gordon, "and you achieve that with effects as well as physics."

From a third-person view, players choose from eight characters and must negotiate a series of six tracks. Of course, there will be another hidden track as well as two more hidden characters — characters who also take their design cues from *Wave Race*. "You know," says Technical Director Rob Povey, "the big slow guy who turns better than the faster girl — that kind of stuff."

Format:	Nintendo 64
Publisher:	Kemco
Developer:	Boss Games
Release Date:	March/April 1998
Origin:	U.S.

Insofar as track design, Designer and Lead Artist Brian Johnson puts it this way: "If we were to do normal snowboarding tracks," he grins, "people would probably be bored out of their minds." Johnson explains that each course will bear a great resemblance to a board park, with plenty of things to jump off of. "It'll be realistic in the fact that there won't be crazy dinosaurs and apache helicopters flying out of sewers at you."

Beyond the immediate physics dynamic and character comparisons, *Twisted Edge* will also feature play modes similar to those in *Wave Race*: a straight competition mode for first place; a stunt mode, in which up to four players can alternately compete; and a two-player, head-to-head mode. Uniquely, it will also feature a story mode.

"It's pretty hilarious," Gordon says, "because it's designed for the Japanese
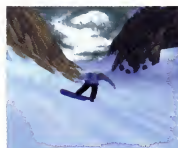
As in real snowboarding, players can mildly carve turns (above) or "tuck" (right) to build speed

is using the same Alias plug-ins and has really pushed the draw engine so it can do more while maintaining 30fps. "We wanted to allow the artists to get a similar look on the N64 as what they have on their SGIs," he continues, "which is what helped *Rally* get to where it got."

For the artists, *Twisted Edge* poses a greater challenge than *Rally* in many ways. "How do you make snow look different on seven different tracks?" Johnson asks rhetorically. "We're trying really hard to make each track have its own theme containing snow."

Much like *Wave Race*'s water, *Twisted Edge*'s varying snow conditions will be more than visual. As in real snowboarding, varying types of snow will affect a player's performance. "As you pass over each snow style we'll have different friction values," Johnson says.

market, so it's very stereotypical." Gordon explains that Kemco Japan and Nintendo Company Limited wanted a storyline. "To NCL, *Wave Race* was a failure," he says, amused, "because it only sold 700,000 units or something. It wasn't *Mario*. So they ran a failure analysis, and one of the main features was a lack of a complex or compelling storyline."

With that, Kemco had Boss exaggerate the characters in some places and implement a storyline. "I think it helps with the Japanese side," Gordon says, "because they want to see the motivation behind boarding." However, Gordon admits, the story is kind of cute and corny, so it will be hidden in the U.S. version, albeit simple to unlock.

So how much *Rally* code will *Twisted Edge* share? "Not so much code as tools," Gordon says, noting that the team

Each character's movement is hand-animated, as motion capturing a moving snowboarder would be difficult, to say the least
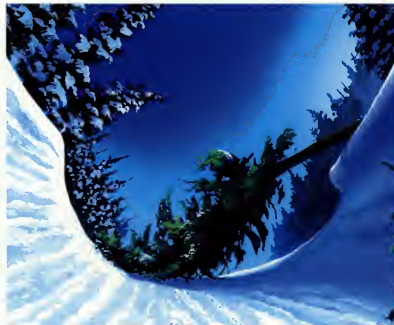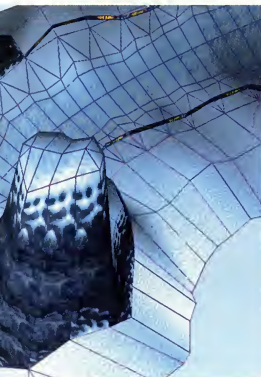
The tracks begin as flat wireframe models (left) and then are stretched in 3D to add high walls and a steep vertical drop. Concept sketches (center, right) offer an idea of the preconceived hazards a course might feature
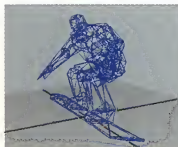
From wireframe to flat-shaded model to fully textured model, it's the birth of an SGI shredder

"When you go into the powder it will slow you down, and we're hoping to implement larger sprays."

While Johnson is tentative on the effects, he mentions that rocks will slow you down quickly, and ice will cause you to slide out. Also scheduled to be implemented are some of *Rally's* weather effects, and Gordon mentions how they may be capable of enhancing fog and mist with more layers. "We're talking about creating an area with a full blanket of fog in it," Gordon enthuses, "so you're in fog and then you come bursting out of it."

Twisted Edge wouldn't be a snowboarding game if it didn't incorporate plenty of aerial moves, and the team plans on pushing beyond what's been done thus far. "In *Cool Boarders*," says Lead Programmer Chris Pink, "you always go back to a base pose and then out, and that is not as much fun to play because you can't do as much."

To give players more control of the stunts, Pink has developed a key frame interpolation system to solve for differing animations. "So there's little or no snapping," says Johnson. "And we're going to try to incorporate the analog pad, so the tricks will actually be intuitive to the controls."

The team began development on the game in January, and Gordon says it is about four months from completion. The total production time will run just over a

The characters will vary in design, with different origins, and of course, different attributes pertaining to speed, cornering skills, etc.

year, and with Nintendo's cartridge price drop, he's pushing for a 12meg cart as opposed to the scheduled 8meg, but he maintains that the decision is up to the publisher "because they gotta buy the suckers and sell them."

And according to Gordon, there's no shortage of N64 development offers for the company, some of which have included movie licenses. "Our general response is 'No,'" he says. "We want to work on original product designed and created here. I think it's the right way to go." With a strong concept and a veteran N64 staff working on *Twisted Edge*, the company, for the time being at least, is definitely going the right way. **ng**

The animators have captured the flair of the air (left) as seen in this tail grab. Grabs can be combined with many other moves

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N64 Basketball

Can Nintendo 64 become the sports platform
Super Nintendo never was? With the first N64
pro basketball game, Z-Axis hopes so

Format:	Nintendo 64
Publisher:	TBA
Developer:	Z-Axis
Release Date:	TBA
Origin:	U.S.

Hardaway executes one of the game's most impressive features, the
fake first step (above left). The adjustable replay camera captures a
Pippen dunk (lower right) and can be called up without aid of a menu

Blocking on DEL NEGRO

Instead of a static team
rating bar, the Team
Select menu lists
strengths and weak
points

BMG's U.S. game publishing efforts may have crumbled, but its developers haven't. And while this corporate kink has delayed Z-Axis' first title, *Major League Soccer* (**NG 29**), the company is already looking to sell what will surely be an even hotter commodity in the U.S. market — an NBA basketball game for N64.

Even before Z-Axis began working with BMG, it had plans to do a 32-bit basketball game with EA. While that project fell through, Z-Axis President David Luntz believes this title will be different. "The code is all different," he smiles, "but the spirit's the same — just to make the best NBA game ever."

And a few short weeks from beta test, this untitled "NBA game" is looking good. Already the control is tight, and players can use both the digital d-pad and the analog stick. The trigger is used to shoot, and when combined with analog control, adds an intuitive feel to a dunk.

The game is currently running at nearly 30fps without any slow-down. It also lists a fairly incredible number of moves, and characters scale from low 200-poly models to high 600 models. Approximately 100 of the league's star players have their own hand-drawn textured faces, and each player is modeled to the exact inch of his real height. The animation was done entirely in Z-Axis' own motion-capture studio. After Luntz and crew decided they weren't happy with some of their outsourced soccer motion-capture animations from Biovision, the team opted to build their own studio and do it themselves.

While the graphics are about what

you'd expect from N64, Z-Axis really takes the next step with some new basketball gameplay mechanics in the form of the "talk" button and the "fake" button.

"Most people aren't basketball coaches," explains Creative Director Gordon Bellamy, "so what we want to introduce them to is the idea that there are low post plays, high post plays, and isolation plays." And interrupting the gameplay with complex chalkboard diagrams is not what he means. "If you press the talk button," Bellamy says with great enthusiasm, "the game simply tells you what sort of play your team is executing, like the low post, and you can consider throwing the ball in the low post."

Not only does the talk button enable players to learn strategies on-the-fly, it gives the player the opportunity to "smack-talk" on big plays. "Smack-talking is a right," says Luntz, "not a privilege." Z-Axis has cleverly designed this brag button

so that only the current game leader can use it. "After you block a shot," says Luntz, "you can press the talk button, and you'll get something like, 'not enough postage.'" Luntz notes that each phrase corresponds to a context-sensitive situation — a great shot will elicit a different, fairly inoffensive response like "money" or "you can't cover me."

While the talk feature may come off as somewhat of a novelty, it is the fake feature that implements an aspect of real basketball — faking or juking out a defender for the clear shot. By holding down the top right button, players can enable any number of fakes. "It depends on what you press," coaches Luntz. "If you hold down fake and press first step, it'll do a fake first step; you do a fake and pass, it'll do fake pass; you do fake and shoot, he'll do a fake shot."

This feature was already working within the unfinished game, as **Next Generation** was pleased to discover during a two-player demonstration against Bellamy. Using a fake jump shot, **NG** suckered the creative director into leaping too early, clearing the way for two points, just as if it were a real hoop game.

As the game was originally for BMG, both Z-Axis and BMG International (the U.K. team who is cleaning up the company's Stateside mess) must agree on the publisher. Also, the new U.S. publisher will have the hefty financial responsibility of securing an NBA license. But Luntz believes the title will quickly find a home. "The market opportunity is great," he says. "I mean, any publisher will want to take advantage of the fact that it will either be the first, or on the heels of the first, real five-on-five NBA game to ship [for N64]."

Considering the successful sales of even the poorest N64 titles, and a still extremely small catalog of cartridges amidst the fall product rush, Luntz is right. By the time you read this, chances are his game is already sold.

Shaq (top) is back! According to Z-Axis, "dual Gouraud shading" was required to capture the blended blue of Charlotte's court (above)

Charging calls will vary as a robust physics engine takes into account a player's size and rate of velocity

Hyper Olympics
in Nagano 64

After delivering *International Track and Field*, one of the most enjoyable multiplayer games ever, Konami is returning to the sporting field

As in previous Konami sports titles, *Hyper Olympics* is bound to combine an unhealthy amount of button-bashing with split-second timing as a recipe for success

Format:	Nintendo 64
Publisher:	Konami
Developer:	Konami
Release Date:	December 1997
Origin:	Japan

The latest in Konami's respectable tradition of sports titles, *Hyper Olympics* will be released to coincide with the Nagano '98 Winter Games, just as last year's *International Track and Field* was released on PlayStation, appropriately timed for the Olympic Games.

The importance of timing should not be underestimated. For two years, a clock outside Tokyo's Shibuya station has been counting down the days — to the Japanese, this is an event of biblical proportions.

The game promises 12 events, and players are able to fly the flag for one of 16 countries. Classic events, including alpine and freestyle skiing, speed skating, bobsled, luge, and ski jumping, are mixed with more contemporary disciplines like snowboarding.

The Championship option gives players the opportunity to set a contest with a specific number of events. Alternatively, the more traditional Olympic mode will enable players to compete for medals.

While Konami is producing a PlayStation version, this 64-bit example should offer the most realistic experience. Nintendo 64 owners should perhaps start investing in some super-durable joypads right now …

Players have 12 events to choose from and can also represent one of 16 countries
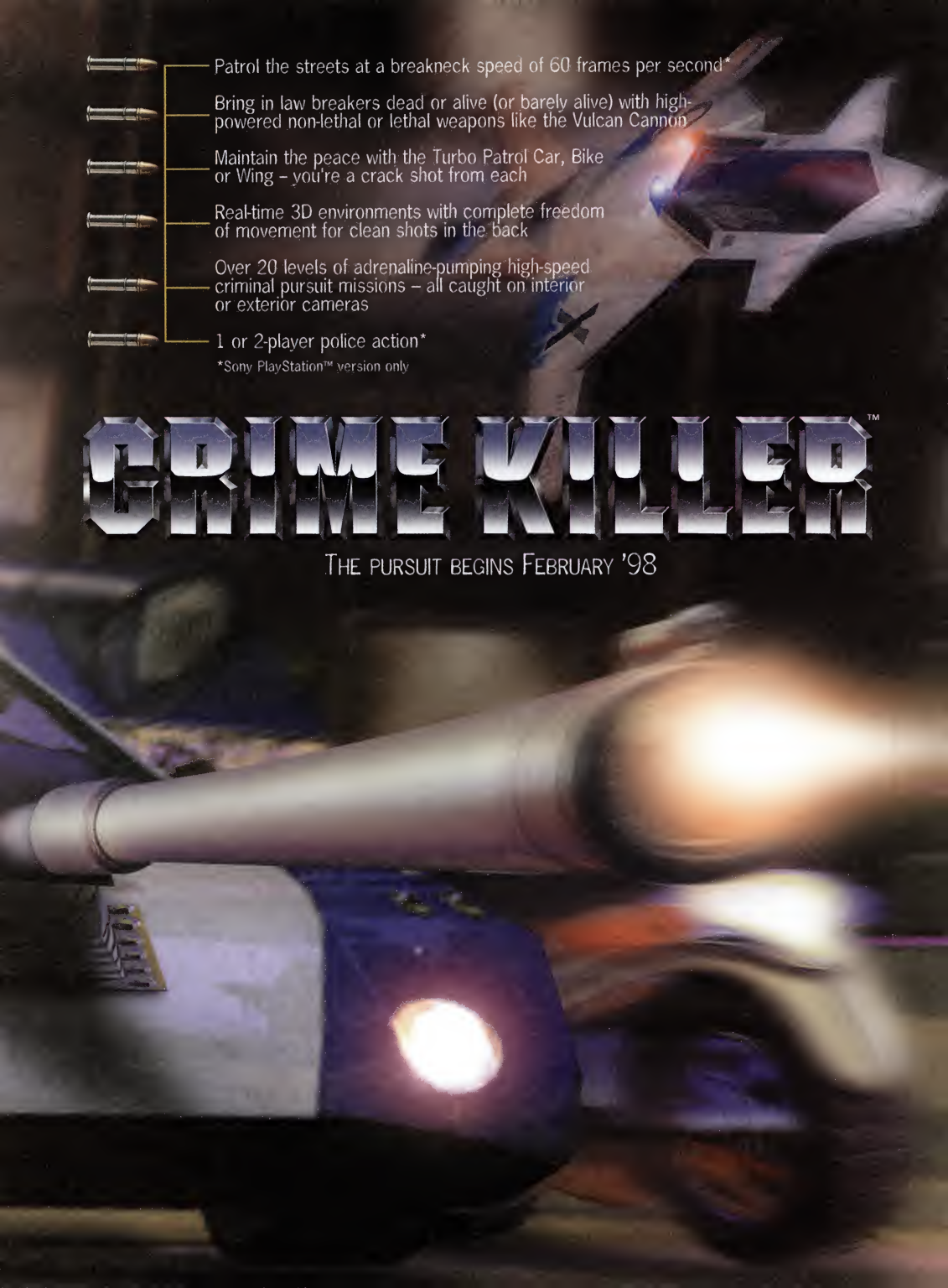
True to fashion, *Hyper Olympics* features some of the more en vogue winter sports

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WarGames

Based on the movie reflecting the nuclear neurosis at its height, *WarGames* promises to be more than just another *C&C* clone

Interactive Studios didn't retain the movie's look in designing *WarGames*, but it did use the premise

Format:	PC/PlayStation
Publisher:	MGM Interactive
Developer:	Interactive Studios
Release Date:	Q1 1998
Origin:	U.K.

Although it is rare indeed for a software company to use a movie license for gameplay reasons rather than to make money, it seems that Interactive Studios has done just that with its forthcoming PlayStation/PC title *WarGames*, a game based on MGM's 1983 movie about computer paranoia starring Matthew Broderick.

The story begins 20 years after the events depicted in the film. The player takes on the role of David (Broderick), who is working for the U.S. government, helping to reprogram its defense computer to eliminate the danger of it triggering a nuclear war. Unfortunately, he fails, and when the computer challenges him to a *C&C*-style "game" on a networked PC, he must win, as the computer may be preparing data for a real war.

What all this really amounts to is a military strategy game along *C&C* lines. The player gets a fleet of armed vehicles, helicopters, and marines with which to defeat the forces of the government computer over 30 campaigns. These missions have all been scripted by the movie's original writer, so inevitable thematic links between the two should lift this beyond the usual grab-a-license-and-make-a-fortune fare.

So what does *WarGames* add to a jammed-to-the-rafters genre? The answer, says team leader John Whigham, is plenty.

"Graphically speaking, we believe *WarGames* is pretty much unique in its total adoption of fully three-dimensional polygon technology," he says. "One of our original design criteria was that there

Vehicles are designed to move realistically across terrain and do not have to fit into "tiles" as they do in other isometric strategy games

Instead of harvesting resources, players clone hackers — an idea that ties in nicely to the movie

should be no compromise in any aspect of the game that would restrict what could take place on our virtual battlefield. We decided that with the exception of the troops on the ground, which would have been too unclear if generated in real time, everything in our world would be constructed entirely from polygons and will consequently reap the benefits they convey."

Essentially then, Interactive Studios has abandoned the standard tile system that many *C&C* clones use in order to make things easier for designers. In *WarGames*, the vehicles don't have to move over and fit into a rigidly defined grid system; instead, they have complete freedom of movement over the landscape. As Whigham explains, "By breaking away from tiles, we allow the player to place their units exactly where they like, to an accuracy of a fraction of a centimeter. Units can face in any direction and can travel in straight lines at all times. While this is of great benefit to the player and to the game in general, the programming nightmares it raises have given us more than one sleepless night over the last few months."

Each of the land, air, and sea units has its own movement restrictions and abilities, which should add a lot to the game's strategic complexity. Tanks and other heavy vehicles, for example, are unable to tackle steep inclines, so players can amass their troops behind mountains to avoid enemy attack.

"Another aspect on which we lavished some serious attention was resource acquisition and management," continues Whigham. "Instead of opting for the cliched approach of harvesting some resource or other found on the map, we instead have a tie-in to the original film with the use of hackers. The player clones these special troops and then sends them out to computer centers located around the level. Once there, they can be instructed to attempt a wide variety of 'hacks' to gain information, upgrades, new technology, or most importantly of all, money."

Although *WarGames* is still several months from release, it's already looking impressive. Visually, there are SVGA graphics, realtime weather effects, and six diverse geographic environments, and there's plenty of promise in gameplay innovations too. With 3D acceleration and LAN support promised for the PC version, along with that well-constructed 3D

Players are tasked with having to defeat the forces of the government computer using their own military fleet

environment, this could well prove that the military strategy game really is a genre in its own right and not just a bunch of designers copying Westwood Studios. **ng**

Each vehicle in *WarGames* has its own specialist uses and movement restrictions; tanks, for instance, can't climb steep ascents
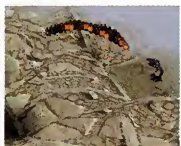
There are six different environments in *WarGames*, including grasslands, seascapes, and mountains (above)

GET IN TOUCH WITH YOUR GUN-TOTING, TESTOSTERONE PUMPING, COLD-BLOODED MURDERING SIDE.

Extreme Warfare

Trilobyte finally breaks free of its puzzle-centric games with a title as ambitious as *The 7th Guest*

In many ways, the blame for the scourge of Full Motion Video titles plaguing the industry can be laid at the feet of Trilobyte Software.

The company started out quite strong, actually. Three years ago, the Trilobyte team created *The 7th Guest*, considered by many to be the ancestor of all FMV-based games. It was the first game to use FMV extensively, and for its time, it was one of the most revolutionary games ever. Its long-awaited sequel, *The 11th Hour,* was a disappointment in the *Doom II* vein; while the FMV was cleaner, the game offered nothing new. Then after Trilobyte's last new offering *Clandestiny*, the company faded into relative obscurity.

Format:	PC
Publisher:	**Red Orb**
Developer:	**Trilobyte**
Release Date:	**Spring 1998**
Origin:	**U.S.**

strategy before upcoming missions. Missions can range from destroying certain vehicles in a convoy to protecting a hospital from alien attack. Missions can also be played from both sides — if players choose the aliens, the missions

In *Extreme Warfare*, Trilobyte combines its storytelling past with elements of the realtime strategy genre
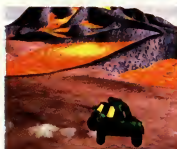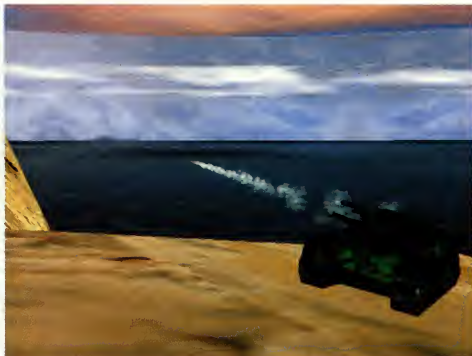
Early in development, only the landscapes are nearly complete

But things are looking up for Trilobyte. Like *The 7th Guest*, its new title, *Extreme Warfare*, is a giant step forward. While the game looks a bit like *Battlezone* (**NG 34**) or *Uprising*, the emphasis here isn't as much on in-game strategy as it is on pregame strategy. *Extreme Warfare* is being designed to be a multiplayer game in the truest sense of the term.

The game itself can best be described as a much more personal *Red Alert*, where players can choose from a number of vehicles to control, ranging from jeeps to tanks to all manner of airborne units. The fun part comes in multiplayer mode, where players can log into Red Orb's online chat area and plan

become defending the convoy or attacking the hospital. Coordination with other vehicles and players is a must, lest the missions be brief and unsuccessful.

Graham Devine, project leader and the mind behind Trilobyte's FMV past, trumpets the multiplayer aspect. "We tried to make the game very team-oriented," he explains. "And not in the same way as *Quake*, where in Team Fortress, everybody just runs from one side to the other and shoots everyone else for the whole match. It's hard to make those sniper guys stay behind.
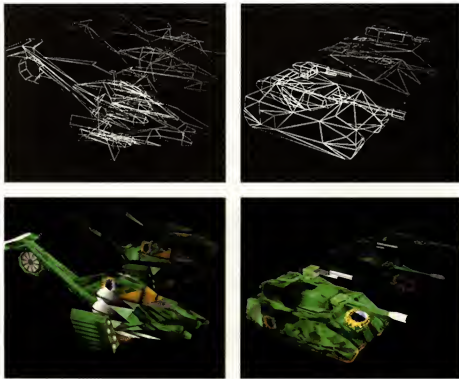
Several vehicles are available for use on both sides of this mammoth conflict

When you play football or hockey, that's not what you do. You don't all run to the other side of the field. Plus, the snipers have the same attributes as the other guys; there's very little difference in the way they look, and none in the way they play. That's something we really wanted to change with *Extreme Warfare*."

That among other things. Seeking to escape the polarized plots of most strategy games (GDI=good, Brotherhood of Nod=evil), Devine and the rest of Trilobyte have given the strategy genre a
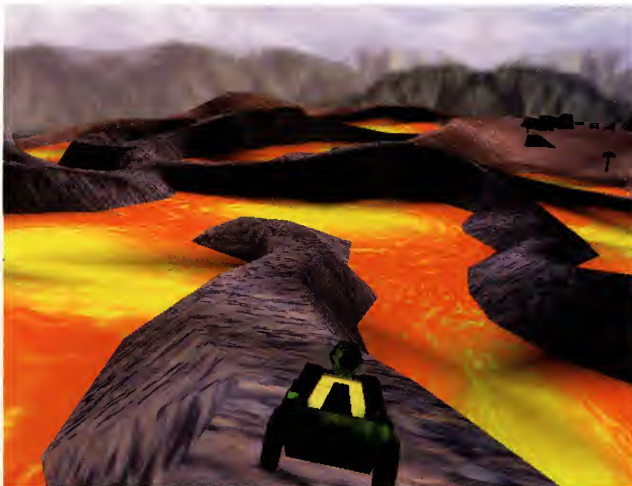
Expect the environments to play a big part in the strategic aspects of the gameplay. Due to the game's preplanning nature, the environments should provide one of the game's biggest challenges
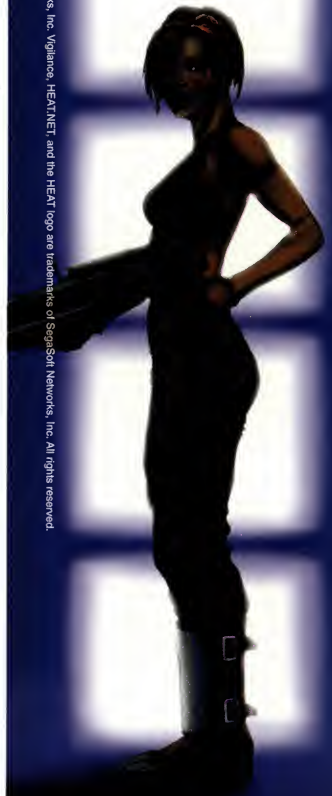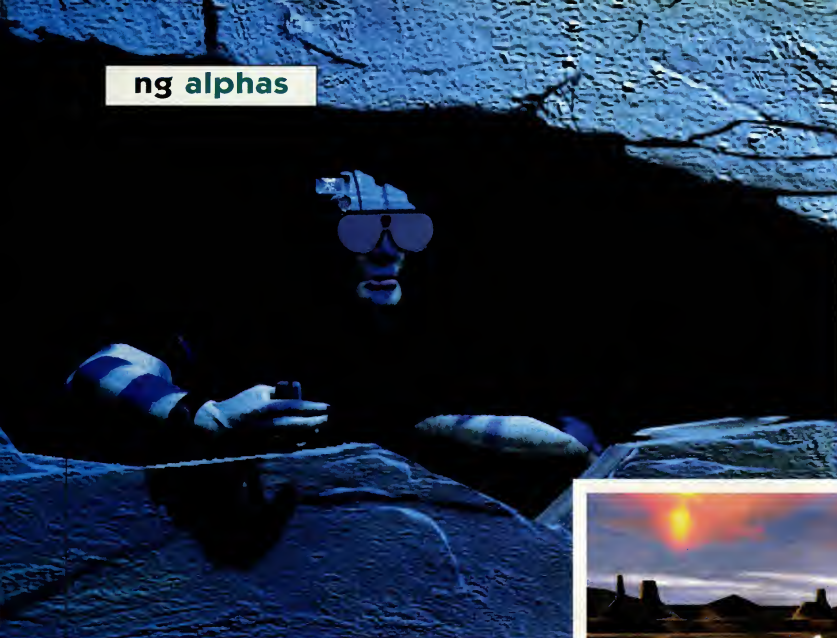
Play as either a human or alien race. Neither is good or bad, just different

The rich backstory includes several intriguing characters

much-needed shot in the arm in the story department, borrowing from a past project that never came to fruition. *Extreme Warfare* was originally created as a multiplayer test for *Millennium*, another Trilobyte project. According to the prerelease hype, *Millennium* was to be based on Orson Welles' *War of the Worlds*, with periodic updates from a Mars landing crew. What was left of the project was a great storyline, and an even better multiplayer game.

"The aliens start out looking pretty vicious and nasty," Devine says, "but you'll end up wondering if the humans aren't the scum of the universe. It's like *TIE Fighter*. I always played as the Empire, and I was just a policeman! I'm just doing my job while all these damned Rebels are blowing things up. They've got to be killed! I like that approach — the ability to play as both sides, each of which is good in its own mind." So, for example, players will be able to choose the Sway, the alien race that, before the game even begins, completely destroys Earth. The only humans left in existence are those on the Mars colony.

So if the Sway can obliterate Earth in the blink of an eye, why don't they blow up Mars as well? Todd Arnold, Red Orb's producer for *Extreme Warfare*, is quick to explain, "For purposes of gameplay, we obviously have to balance out the teams. Neither side is going to have an advantage — that's not particularly fair. The weapons are different, the vehicles

are different, but there are equivalents to each one on each side." Weapons can also be upgraded; for example, some units are equipped with some kind of missile launcher, but later in the game, given enough research, a cluster bomb launcher can be affixed to the vehicles.

While *Extreme Warfare* is far from complete (the only finalized thing in these shots is the terrain), it looks like, with the right execution, it could be the next big thing in multiplayer gaming. Certainly it won't be alone in the war/strategy genre, but it could still stand out.

Specifically designed for multiplayer gaming, *Extreme Warfare* is at its best with several human opponents

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In search of the future of gameplay

Why movie license games suck

by **Neil West**

Neil West is **Next Generation**'s editor-at-large

At London's recent European Computer Trade Show (ECTS), I helped chair a round table discussion on the future of game design. Joining me and the staff of *Edge* magazine (**Next Generation**'s European sister publication) were Peter Molyneux (Bullfrog), David Jones (DMA Design), Dave Perry (Shiny Entertainment), Jeremy Smith (Core Design), David Braben (Frontier Development), and Brett Sperry (Virgin Interactive Entertainment). As each of these luminaries was introduced to each other, I conducted a quick experiment. Looking around the table, I jotted down in my notebook the games that I most immediately associated with each individual or his company. The list I came up with included *Tomb Raider*, *Populous*, *Lemmings*, *Elite*, and (if you consider Westwood Studios as part of the Virgin family) *Command & Conquer* — five of the most innovative and influential videogames ever created. This was no real surprise — we knew that we had some of gaming's finest artists assembled. But it was something else that these games had in common that interested me: All of these games were based on completely original concepts and designs, and not one of these games employed art from the "outside" world. This is surely no coincidence.

In last month's The Way Games Ought To Be column, I examined four pieces of great videogame art: the *Space Invaders* music, *WarCraft 2*'s voice signals, *Super Mario 64*'s triple jump, and *Doom 2*'s Tricks and Traps level. My idea was that if we can put our finger on an exact detail that helps make some games great (as opposed to simply coming up with such lackluster diagnoses as some games "feel right" or have "lots of depth"), we can start putting together some guidelines for how to make better games.

One of the conclusions I came to was that great videogame art has to be played to be appreciated. Correspondingly, elements of great videogame art (such as the *Space Invaders* music) can never be taken out of the game and appreciated as stand-alone entities in the outside world — they only work in the context of having your hands on the controls.

My second conclusion was that in videogames, as in most areas of life, less is often more. Chucking money at a problem

won't automatically ensure success. Each of the four examples of great videogame art succeeded purely because of a great idea or skillful design. Not one of the examples relied on expensive solutions or a "high production value" to shine. *Tetris* is a great example of how this principle can be taken to extremes.

The last conclusion I came to (although I'm sure there are plenty more to be gleaned) was that great videogame art is very rarely graphical. It's about painting a spellbinding picture of the game world in the player's head, not on the TV or monitor screen. It's about building a mood and reassuring the gameplayer that despite all the hazards, obstacles, and enemies, the game world is solid, trustworthy, and fair. Alternatively, it's what players get to do, not what they see, that matters.

But how can we turn these conclusions into lessons for making better games? Peter Molyneux, David Braben, Dave Perry, Jeremy

Movies are passive and games are interactive — two completely different experiences

Smith, and Brett Sperry are in on the secret. And from hearing what they had to say as well as examining the great games they have produced, it's easy to see that one of the most important lessons is that great videogame art never relies on art imported from the outside.

When art from the outside world is incorporated into a videogame, it's usually in the form of some sort of license. Game designers often license characters from comic books and team names from sports organizations, but movie license games are the most common example, and players usually end up getting to control a game character based on some movie hero. This character will run and jump or point 'n' click his or her way through levels that look a bit like scenes from the movie and fight bad guys who look a bit like villains from the movie.

But history has proved countless times that these movie license games rarely work. In fact, usually they completely suck. For every *Goldeneye* there are hundreds of clunkers such as *Batman Returns*, *The Last Action Hero*, or

Bram Stoker's *Dracula*. And now we are beginning to figure out the reasons they blow so hard. Aside from the obvious fact that the six-figure sums spent on acquiring these licenses are usually taken directly from the game's development budget, these games fail conceptually because they attempt to bring art from the outside world (characters, scenes, and storylines) into the videogame world — and this simply doesn't work. Here are some reasons:

• **We like watching Mickey Mouse, but we don't necessarily want to be him.**
When we watch Nicholas Cage in *Con Air*, we enjoy following the fortunes of an appealing character as an exciting story unfolds. It can be argued that we identify a little with movie heroes (at least we can fantasize that we have things in common with them), but really we just like watching them. Sure, they're larger than life, exciting things happen to them, and they always manage to come up with a cool one-liner at the appropriate time, but we don't really want to be them. It's even easier to make this distinction when you consider less hero-centered movies such as *Jurassic Park* or cartoons such as "Ren and Stimpy" and "The Simpsons." They're fun to watch, but do you really want to be Pamela Anderson or Homer Simpson? Of course you don't. So why should you want to take on the role of these characters in a game?

• **Videogaming is not a spectator sport.**
Casual buyers of videogames may browse the store racks and pick out games based on movies — they recognize the name or enjoyed watching it on video. They immediately associate the game in their hands with all the flash and buzz of the movie. They think, "Wow, wouldn't it be fun to be a character in that world!" They buy the game, take it home, and inevitably it doesn't quite live up to their expectations. This is because movies are passive and games are interactive — two completely different experiences.

When we watch a movie, we are merely silent observers of a drama being played out before us. Like the designer of a roller coaster,

the director of the movie has orchestrated each drawn-out moment of tension and each second of thrilling action. The audience is powerless to do anything but sit back and enjoy the ride. Sure, the movie world seems like a terrifically exciting place, but this is only because the director has made it so — he's filmed and cut the film so that interesting things happen on a regular basis. Would the world of *Raiders of the Lost Ark* seem so exciting if we'd had to sit and watch Harrison Ford for every minute of the numerous hours it would have taken Indiana Jones to wait for the sun to shine through his treasure-locating necklace? Of course not. It would have seemed dull and tedious. But Steven Spielberg made sure that the sun was in the right place of the sky the moment Indy broke into the map room. Would *Rocky IV* be a favorite if at the end the Russian had won and Rocky had to be taken to the hospital? Nope, it would have sucked (um, even more). But the director made sure this didn't happen.

When we play a game, however, the progress of the central character is our responsibility — it's not up to the game designer. Hence the game designer can't guarantee there will be a thrilling new location every five minutes or that victory will be guaranteed by the hour and a half marker. This means that the game world has to stand on its own two feet as an interesting and challenging interactive environment — simply "looking like the set of *Lethal Weapon*" isn't going to cut it for any longer than the time it takes to say, "I'm getting too old for this shit." But movie worlds simply aren't designed for this type of close examination. Remember, it's what the player does and not what he sees that is important.

• **Outside art carries too much excess baggage.**

"OK," you might be thinking, "but given that the game world has got to look like something and given that the central game character has got to look like someone — why can't its places and characters look like those from a movie? Sure, you'll still have to add the interactive stuff, but then you would anyway — and this way you get all that extra 'atmosphere' from the movie!" This is the argument that's usually given in defense of movie-licensed games. But the argument is flawed. It's not simply that bringing in art from the outside is no better than coming up with original content, but the fact is that it's a lot worse. Outside art actually hinders the game.

The trouble is that all outside art comes with baggage attached. Take the cartoon series "Scooby Doo," for example. Sure, on first impression it may seem like a fun idea to license "Scooby Doo" for a videogame:

Everyone enjoys the TV series, the characters are likable and fun, and in each episode there's a straightforward good guys versus bad guys conflict that (seemingly) lends itself to some kind of videogame. But there are some immediate problems.

First, who is the game's central character going to be? No one wants to be Fred, Thelma, or Daphne, so that leaves Scooby or Shaggy — but they always work as a pair. So, to stay true to the license, let's say the game gives players the role of Shaggy, and Scooby kinda tags along at Shaggy's heels. But this doesn't work so well in the videogame world because now the screen is cluttered by this extra character who gets in the way and is out of the player's control.

Second, how does Shaggy (and Scooby) fight the bad guys in this game? Well, as we all know, Shaggy and Scooby don't ever fight anyone — they get scared, dress up in silly costumes, and then run away. So the game either has to give Shaggy and Scooby weapons (and hence completely disregard the nature of their characters) or come up with some control mechanism that enables players to "get scared, dress up, and run away" in a rewarding manner (doesn't sound very likely, does it?). So we can see that the game is stuck between a rock and a hard place. The designer has to either abandon all hope of sticking to the "Scooby Doo" concept (bad idea, why do a "Scooby Doo" game in the first place?) or, in an effort to be "realistic," accept that the gameplay is going to suck (bad idea, period).

It's easy to see that in this case, trying to incorporate linear art into interactive art is like trying to fit square pegs into round holes. But all outside art comes with similar baggage and forces similar contradictions. Even James Bond — perhaps the most obvious candidate for crossover from movies to videogames — comes with a similar degree of headaches, and it's a testament to Rare's talent that N64's hit *Goldeneye* succeeds despite these problems.

You want proof? OK, what do we know about James Bond? He's a spy, he has a license to kill, he gets to drive all sorts of fancy vehicles, and he usually finds himself in some exotic location facing hundreds of enemy foot soldiers. OK so far — all of this can be incorporated into a game fairly easily. But what else do we know and like about the James Bond character? We know that all the beautiful women he meets on

his adventures fall at his feet, he always manages a humorous double entendre as he dispatches a major bad guy, he has a flirtatious relationship with Miss Moneypenny, he enjoys only the best food and wine, he always has a smart reply for M's admonishments, he's very "English," and he usually loses a loved one during an adventure, which touches us when he shows that he's hurt. All of these characteristics are just as important in explaining James Bond's appeal and why we like watching his movies, but they aren't included in *Goldeneye*'s gameplay. As a result, Rare is delivering only one dimension of the James Bond character, at the cost of not being able to add any gameplay elements that may have made the game better but wouldn't have conformed to the James Bond universe.

The moral of the story is that a game designer can be either true to the outside art or true to the game — never both. You want proof? Here's what Dave Perry has to say on the subject: "When Virgin did *Terminator* on the Genesis, we got very excited planning the game because we knew everyone would get a kick from playing as the Terminator. But then Orion told us that we had to make the lead character Reese — a guy who dies at the end of the movie. They also stipulated that there could be only one Terminator, and he couldn't actually die until the end. So this was tremendously frustrating for gameplayers — they had to play as a man who always dies, and they never get to kill the main enemy until the very end. In this instance, the license killed the game before we could even type a single line of code."

The fact is that outside art isn't designed for use in an interactive environment, and interactive entertainment isn't advanced enough to handle all of the outside art's nuances and subtleties (James Bond's dry sense of humor, for example). So why bother? Why restrict a game's potential by making it carry the weight of all this extra baggage? *Tomb Raider, Command & Conquer, Lemmings, Elite,* and *Populous* managed just fine without it.

> ## History has proved that movie license games rarely work. In fact, usually they completely suck

Want to respond?
We'll be including a The Way Games Ought To Be Q&A in future issues, so if you have any comments, criticisms, or questions, email Neil West at theway@next-generation.com or write The Way Games Ought To Be, Next Generation, Imagine Publishing, 150 North Hill Drive, Brisbane, CA 94005. Email is of course our preferred method of communication.

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finals

We play the games so you have time to get out more — don't squander it

Next Generation's Star Guides provide a quick way to get our general impression of a game. But unless you read the review, you're only getting half the story. To get all the information you need to know before making a purchasing decision, read the whole review; don't stop at the stars

★★★★★ **Revolutionary**
Brilliantly conceived and flawlessly executed; a new high watermark.

★★★★ **Excellent**
A high-quality and inventive new game. Either a step forward for an existing genre or a successful attempt at creating a new one.

★★★ **Good**
A solid and competitive example of an established game style.

★★ **Average**
Perhaps competent — certainly uninspired.

★ **Bad**
Crucially flawed in design or application.

ⒸⒹ Denotes a review appearing on the **Next Generation Disc**.

🔴 Denotes a review of a Japanese product.

Nintendo 64

Aero Fighters Assault
Publisher: Video Systems
Developer: Paradigm Entertainment

As the games slowly trickle into the Nintendo 64 library, each genre eventually gets filled, even if by a single game. For the record, *Aero Fighters Assault* is N64's first flight sim. As such, it's a decent attempt, scoring a point for its sleek control and realistic fighter planes, but it also has some notable flaws, including its simplistic, level-boss-level-boss formula. *Assault* offers standard everything (gameplay, effects, enemy AI, graphics), neither bad enough to annoy nor really good enough to make an impression.

Players begin in practice mode by maneuvering through hoops a la *PilotWings*, then move on to the main game. This follows a linear level-boss formula for 11 levels, each of which looks different but plays much the same. Some of the bosses are well-designed and interesting to fight against and look at, like the Leviathan (a submarine super ship), the Super-X (a beetle-shaped mech), and the Bazeel (a gigantic lumbering military base).

If *Aero Fighters Assault* is all we have to look forward to in an N64 flight sim, we'll keep looking

The game also includes a special mode called Boss Attack, which lets players skip straight to the bosses. There's also the by now obligatory deathmatch, possibly the best thing about the game.

Worthy of special derision is the game's music, which seems to consist of leftover tracks from the 16-bit era. Repetitive, cheesy synth tunes and super-fast thumping bass make for an extremely annoying aural assault. This doesn't exactly affect gameplay, of

course, but does little to enhance the experience.

Aero Fighters' best qualities lie in its six realistic, highly maneuverable fighter jets (two are bonus jets). From the F-14B Tomcat to the A-10A Thunderbolt II to the FS-X, various planes provide unique rides, and both realistic and futuristic weapons. Younger players might enjoy the speed racer-looking characters who are paired with their planes, but they don't affect gameplay.

All in all, the game needs more high-intensity dogfight levels, realism instead of science fiction trappings, and less linearity. Had the gameplay matched its flight model, *Aero Fighters Assault* would have been a real gem. But as it is, the game's not quite a diamond in the rough.
Rating: ★★★

Clay Fighter 63 1/3
Publisher: Interplay
Developer: Interplay

Clay Fighter, the unrepentant, mocking cousin of all serious fighting games, gets its licks in again, this time on Nintendo 64. The more cynical and jaded gamers will doubtless laugh at it

Clay Fighter 63 1/3 continues the series' tradition of funny games that don't play well

(especially those familiar with Super NES and Genesis versions). All of it. However, after playing for about ten minutes, the laughter tends to die down into sporadic chuckles through gritted teeth.

What's so likable about *Clay Fighter 63 1/3* — in fact, about the only thing that's likable — is that it's just so damn silly, and it parodies its targets pretty squarely. Anyone who's played, or even watched someone else play

Street Fighter, *Mortal Kombat*, or *Killer Instinct*, which bear the brunt of *Clay Fighter's* derision, will find the characters, their moves, and voice-overs hilarious. In that way the game is true to its conception. Characters range from the series returning standbys like Bad Mr. Frosty and Taffy to newcomers like Earthworm Jim and a couple of surprises, along with at least three secret bonus characters.

The music director seems to have an ear for Danny Elfman's soundtracks, since the music sounds oddly serious and epic, yet with a decidedly goofy undertone. The sound effects — humorous asides ("Cluck you," "That was a clean combo," "Dumb combo," and T-Hoppy's "You suck") — add a great deal to the game's humor and appeal.

Which is good, because in the end, the humor is about all the appeal there is. The gameplay is full of flaws, both minor and major. Characters are slow and often awkward, and the game actually stalls occasionally, something unforgivable in a fighting game, even a comedic one. The 2D, claymation-created sprites characters, surrounded by cool-looking 3D polygonal environments, move in a slow frame rate that ranges from choppy to sluggish. It's probably not too wise to judge the fighting combo system either, seeing as how it's a Cuisinart blend of every popular fighting game imaginable, with each character juggling moves from a variety of "serious" fighters from other games.

In the end, most gamers will have a difficult time slapping down $69.99 for this comic-tragic game. How much of a price do you put on a good, if short-lived chuckle?
Rating: ★★

F1 Pole Position 64
Publisher: UbiSoft
Developer: Human Inc./UbiSoft

Human's *Human Grand Prix* took a bit of a beating in **NG 31**, and rightfully so. However, *F1 Pole Position 64*, the U.S. version of the game, has undergone a revision from the developers at UbiSoft and has come out a better, more polished game than the original

Nintendo 64

Japanese release, warranting a second look.

The Japanese version kept a high frame rate but also suffered because the anti-aliasing and mip-mapping were at a bare minimum. *F1* keeps the frame rate high (about 30fps), but the extra development time shows in its smooth, clean graphics, and UbiSoft has also mostly fixed the once terrible draw-in problem that plagued the original. Draw-in still appears in popping trees and grandstand audiences, but it's a lot less annoying and even does better than *Cruis'n USA*.

With some extra development time at UbiSoft, *F1 Pole Position* is better than the original game

While it plays roughly the same and has almost the same options as the Japanese original, *F1* simply seems more finished and proves to be addictive in the long run. The game is full of depth and replayability. Gamers must learn each course to master it, and each is based on the real-life international courses. You can't just jump in and play. There's a learning curve, and nicking half seconds from your overall time is important.

The courses are long and can be adjusted in some of the modes from one to 10 laps; players can also adjust the weather (sunny, cloudy, rainy). And

compared to the current trend of skimpy course lists, *F1* takes the gold medal — 21 courses. Options for collisions range in three points, so when you finally get good, you can adjust the game to your skill level. Saving your car and lap times to the Controller Pak enables you to play against friends — another bonus.

All in all, the game will satisfy F1 enthusiasts and may even nab general racing fans as well. With all of its modification choices, tons of courses, modes of play, and real-life racers and courses, *F1* is a game worth a look.
Rating: ★★★

Nintendo 64

Speed 3

San Francisco Rush
Publisher: **Midway Home Entertainment**
Developer: **Atari Games**

Atari Games' conversion of its arcade hit is everything we could have hoped it would be ... and more

In what has clearly been Midway and Atari Games' biggest coup of recent memory, *San Francisco Rush* stormed arcades last spring to wild gamer and critical praise. Now the console version arrives on Nintendo 64 (with a PlayStation version coming soon), and not to put too fine a point on it, but it kicks.

San Francisco Rush combines the power of muscle car racing with numerous alternate routes and secret passages in an urban environment. It's also tempting to say it includes some of the thrills of a flight game: Imagine Steve McQueen's Bullit on steroids, crack, and espresso, and you've got some idea of how *SF Rush* brings the modern chase to the 1990s, with insane 30-foot jumps across San

Francisco that have to be seen and played to be appreciated. This tightly woven fabric of elements brings what initially appears to be just another racing game to new levels of pleasure and replayability.

Ed Logg (and crew) of Atari Games fame has handled the conversion of the arcade game extremely well, ensuring that the driving physics (based on an update of Atari's classic *Hard Drivin'*), handling, and overall gameplay are securely intact. But the team also went a step further, building extra levels, each with its own new shortcuts and hazards. The cars themselves are built on eight-point collision models, meaning they've got eight points of reaction (most other racing games use only one or maybe two points). After flying across a 70-foot stretch, corkscrewing and somersaulting several times, then somehow landing the car on its wheels and having it just keep going, the sheer thrill makes it quite obvious this is not your average driving game.

The game contains six courses, but these courses can be played forwards, backwards, mirrored, and mirrored AND backwards, totaling a whopping 24 possibilities and putting

If this title has one great claim to fame, it's the exhilarating feeling of flying over huge expanses of urban landscape

every other N64 racing game to shame. Graphically, *SF Rush* retains all of the shine and polish of the original arcade game. N64 handles car explosions, mip-mapping, light sourcing, and a decent frame rate (30fps) very well. Even in two-player mode, the frame rate holds up. The soundtrack, a blend of surf, techno, and listenable racing music, is enjoyable, and the sound is clean and crisp. And while it can't match the richness of the arcade, that's a harmless concession to cart-based home conversion.

All told, *SF Rush* is just short of brilliant. It's a fun, challenging game that keeps you playing over and over again.
Rating: ★★★★★

With its fast gameplay, snappy control, and secret paths, *San Francisco Rush* is about as good as it gets — that the designers added material to the home version is just a bonus

rating

PlayStation

Castlevania: Symphony of the Night
Publisher: Konami
Developer: Konami

It's an impressive feat for a 2D side-scrolling platformer to achieve any kind of status as "spectacular" in this 32- and 64-bit day and age. But somewhere along the way, Konami was able to create a thoroughly enchanting, if somewhat nostalgic, glimpse back at the good ol' NES days with *Castlevania: Symphony of the Night* on PlayStation. This time around, players chase down Richter Belmont as the son of the vampire king Alucard while running into plot twists and odd characters along the way.

Meandering only slightly from the original series' heavy emphasis on action by incorporating some new role-playing elements (stats, level-building, and an items shop),

Taking on Richter Belmont is a highlight of the classic 2D gameplay in Castlevania

Symphony manages to use the subtle technological aspects of PlayStation to its advantage. The absolutely stunning soundtrack succeeds at consistently setting up a gothic, orchestral atmosphere throughout the countless rooms, while the controls remain smooth and completely interactive. But perhaps the most appealing feature of the game is not just that it has such an endearing lineage in gaming history, but the fact that this current heir to the legacy is so incredibly vast and deep. The insanely nonlinear structure is more akin to *Metroid* than *Castlevania*, offering countless hours of exploring creature-infested hallways, hunting down rare items, and figuring out how to access secret areas. In turn, the nonlinear gameplay also harbors multiple endings as well as countless paths through the castle, which add a nice layer of depth.

The only slight drawback to the game (and here it comes again) are the atrocious voice-overs, but the events are few and far between and

take nothing away from the game itself. *Symphony of the Night* has classic written all over it and definitely should not be taken lightly simply because of the 2D package it comes wrapped in.
Rating: ★★★★

Grand Tour Racing '98
Publisher: Activision
Developer: Eutechnyx

Armed with its Car and Driver license, *Grand Tour Racing '98* tries to supply everyone with a little bit of everything. Unfortunately, in a world becoming increasingly crowded with 32-bit racing games, that's just not enough.

To sum up, *Grand Tour Racing* is just that: a grand tour. Players get to race several different vehicles on several different tracks, from speedy sports cars on the streets of Moscow

***Grand Tour Racing* isn't a bad racing game. It tries, but never comes out better than "good"**

to dune buggies on Easter Island. To be fair, each of the vehicles does require its own set of driving skills, and each course feels very different. It's a nice idea, but for the most part, it's neither well-executed nor well-integrated into gameplay, and comes across like more of a gimmick than anything else. The performance of the vehicles varies widely, and each is either much too easy to drive (namely the sports cars), or nigh impossible (those annoying buggies, which can't turn worth a damn), with little in between. Also, the course walls are especially sticky — bang into them at the wrong angle, and it practically requires coming to a full stop and backing up to get away

That said, there are some interesting features. Each course is creatively designed and distinctive. The graphics are fairly low-res and somewhat grainy, especially during the two-player split-screen mode, but there's very little pop-in. The AI of the computer-controlled opponents is of an especially nasty sort. Opponents

often resort to pushing the player into walls when going around a curve, or they deliberately bump from behind. They treat each other this way as well, so you might well zip around a turn to find a three-car pileup. Each course has a few additional levels of difficulty for those who can place first on the last level, increasing the game's depth. In all, nice touches here and there dot the game.

But in the final analysis, *Grand Tour Racing '98* doesn't make much of an impression. No one will be disappointed with it, but it's far from top of the line.
Rating: ★★★

Mega Man X 4
Publisher: Capcom
Developer: Capcom

OK, let's do it one more time. It's tempting to dismiss this out of hand as the old hat that it is, but the series just

You're either a fan of Mega Man, or you're not. *Mega Man X 4* won't change your mind

keeps going and going like the Energizer bunny, and by now, you're either a fan or you don't care. So, we'll just hit the high points and move on.

This latest installment has yet another world-threatening crop of evil animal battle droid bosses led by Sigma, each one waiting around patiently for the player to reach the end of the level. Expect the usual mix of ice, fire, electrical, and wind hazards. It's got a new batch of weapons, which act pretty much like the old weapons — platform guns, a freezing gun, a fire gun, etc. There's the expected array of hidden areas and "secret" power-up items. The 2D, side-scrolling gameplay is as idiosyncratic as ever (which makes us kind of wonder why, if Dr. Light is such a genius, he can't design a battle droid that can shoot at an angle or a weapon that can keep enemies from instantly reappearing when you turn around).

Basically, if you like this series, you've probably already bought this latest installment. If you don't, you've

already ignored it. If you're one of two people who've never heard of it, pick up *Mega Man X 3* in the used bin for a third of the price, since you won't miss much. File it under "mostly harmless."
Rating: ★★★

Moto Racer
Publisher: Electronic Arts
Developer: Delphine

To be honest, as great a game as the D3D-enhanced PC version of *Moto Racer* is (**NG 31**), it was difficult to conceive of the PlayStation version living up to that standard. But with a slight degradation in graphics and absolutely no decline in gameplay, *Moto Racer* has made the transition to console remarkably intact.

As expected, PlayStation can't compete with the likes of the 3Dfx chipset in terms of graphics, but *Moto Racer* for PlayStation still moves at an

A great game on PC, *Moto Racer* manages to make the transition to PlayStation virtually intact

incredible frame rate that communicates the sensation of speed superbly. The PlayStation game also has a more pixelated look, but in comparison to other console games, *Moto Racer's* graphics shine. There is a bit more background draw-in than in the PC version, but the track and thus the gameplay are unaffected.

Thanks to Sony's new analog controller, control on the console version easily matches that on PC. But a major point of interest is how well Sony's standard digital controller works with the game. Digital inputs are somehow relayed in small, smooth increments that result in a remarkably analog feel. All of which means that *Moto Racer's* excellent control always works in perfect harmony with exhilarating gameplay.

Although perhaps not quite as technically proficient as the PC version, *Moto Racer* for PlayStation loses nothing in the essence of the gaming experience it offers. A remarkable achievement.
Rating: ★★★★★

Slick

Finally, what a 32-bit version of the *NHL* series should be

Miscellaneous stats, smooth graphics, and amazing motion capture break up the game and really add to the feel. Sinking the slap shot finally feels like the good old Genesis days

NHL '98
**Publisher: Electronic Arts
Developer: EA Canada**

It took a few years, a canceled game, and one good decision, but EA has finally returned the *NHL* series to its rightful place on top of the videogame hockey world. The first PlayStation version of *NHL* was canned, the second was a slow polygonal imitation of the Genesis version. But for *NHL '98*, EA Canada, the hockey-crazed developers of the impressive PC version, were finally given responsibility for developing the PlayStation game. The end result is the best *NHL* game in years, and the best PlayStation hockey game this year.

A combination of high-res graphics, impressive polygonal models, fast gameplay, and astounding presentation makes *NHL '98* a great-looking, great-playing game. The gameplay isn't revolutionary by any means, but the simple controls and sound hockey AI make for a fast-playing, exciting game.

What really makes *NHL '98* stand apart from the pack though is its dead-on presentation. Dramatic camera angles, timely stat flashing, and impeccable sound all combine to set a tone that no other game can match. In many games (like *Triple Play '98*), fancy presentation slows the game down to a crawl. However, *NHL '98* hits just the right balance — with the frantic pace of hockey games, short breaks are the perfect resting point for a sore thumb and a great way to immerse the player in the game.

Like all of the hockey games coming out this year, *NHL '98* has the complete players and league licenses, strategy settings, motion-captured players, polygonal graphics, deep stat tracking, and fights. Gameplay speed has been restored to what fans of the series expect, as has the speed of the

slap shots (something sorely missing from *NHL '97*). But key to *NHL '98*'s resurgence is being able to tell where you're shooting the puck. In all of the 32-bit hockey games, scoring a goal is kind of a mystery, and it's rarely clear how the puck got in the net — it just goes in sometimes. However, in *NHL '98*, EA has returned that same feel of control that made the Genesis games such great pieces of work.

The player control in *NHL '98* isn't perfect, but since the players are on ice, EA's slippery control is actually quite accurate. The other minor problem is that the amount of checks in a game is a bit much, with bodies flying every few seconds. Beyond these small problems, *NHL '98* is a very good game and just that much better than the rest of the competition.

Rating: ★★★★

The checks are satisfying, but with a check every few seconds, it can be a bit much

NHL Face Off '98
**Publisher: Sony Computer Entertainment
Developer: Killer Games**

Ever since the first installment of the *Face Off* series two years ago, Sony has built it into a solid, if unspectacular, hockey game that has never quite gotten it right. *NHL Face Off '98* is in exactly the same boat, with a solid game that isn't quite good enough to be the best.

The icon-passing from last year is back and is again an almost-too-effective method of moving the puck

Sweet motion-captured animations are the one thing *Face Off* does right

around the ice. The precision of icon-passing is such that it takes away from the skill of directing a pass in the right direction. A more usual method of passing is still included, and the mechanics are roughly similar to those in EA's *NHL*, just not nearly as crisp (especially this year). Therefore, in order to have any hope of defeating either a human opponent or the computer, icon-passing is pretty much required, and it affects the challenge.

The biggest difference between this version and last year's is that the game has gone to 3D like the rest of the industry. The polygon players are smooth and well-textured, and they arguably feature the best animation of any hockey game. The complete control of individual skating allows the player to perform hockey stops and crossovers, and even skate backwards. Unfortunately, while it looks good, *NHL Face Off '98* still doesn't control very well, and looks alone aren't enough to give the game any kind of edge over the competition.

The gameplay features and stats are nearly identical to all of the other hockey games coming out, but *NHL Face Off* is a game that doesn't have enough life or personality of its own to separate itself from the pack, meaning once again that it's the second-best hockey game on PlayStation.

Rating: ★★★

Wet dream

Treasures of the Deep
Publisher: Namco
Developer: Black Ops

Finally, a submergible shooter with realistic undersea environments

O nce game developers figured out how to render realtime water, it seemed like dozens of undersea adventures and shooters were suddenly in the works. So far, however, most of those games don't look like much more than space shooters with a deeper blue hue. Fortunately, Black Ops actually recognized the tremendous potential for adventure in undersea environments, and with refreshing creativity, brings us the most compelling shooter in quite some time.

Players assume the role of a contract salvage diver and ex-Navy Seal, a deep-sea do-it-all in the vein of Indiana Jones. From either a first- or third-person perspective, players dive all over the globe in 14 missions that vary from uncovering treasure-laden ships to capping oil spills to recovering a satellite from a sunken space shuttle. Each mission presents the player with an unprecedented level of detail. Levels boast indigenous sea creatures specific to each environment, such as the massive sperm whale in the North Atlantic and beautifully animated manta rays and giant sea turtles in the Caribbean. Even the lighting has been realistically tweaked: A deep water dive in the Atlantic engulfs players in a darker, murkier world as compared to the light blue waters of the Bermuda Triangle.

As in past Black Ops games, the vehicles offer tight control and superb sound, and much of the action involves shooting numerous enemies (in this case, subs and frogmen) while searching out multiple objectives. However, unlike the frantic pace of Black Ops' helicopter shooter, *Black Dawn*, *Treasures* brings a new exploratory quality to the genre. Piloting submarines cautiously is the key to survival, as

The undersea life is nicely rendered. You can even see inside this shark's mouth

the likes of sharks and barracudas can be anywhere, and strong currents can fling subs to destruction against reefs.

The game progresses in a balanced manner, and like any good shooter, it offers plenty of upgrades. Players can cash in their found treasure for new weapons, subs, and dive equipment. Necessary dive equipment for some levels include night vision glasses and a unique Remote Operated Vehicle (ROV), which enables players to scout ahead with a robotic camera.

While the game isn't perfect and doesn't offer a huge amount of replayability, it's certainly representative of the kind of game that's possible when design teams do their homework. Kudos to Black Ops for taking us deeper than most.

Rating : ★★★★
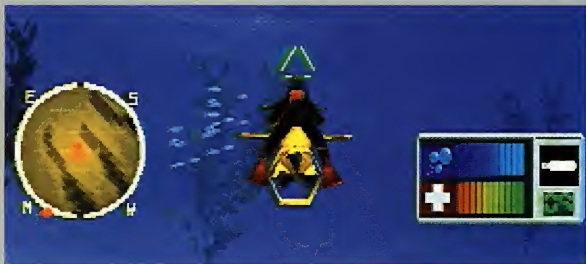
Players pilot eight subs throughout the course of the game. The frogman vehicle is frequently used for shallow dives, and the cargo hauler is required for deep water salvage

PlayStation

New pyrotechnics and effects make *Nuclear Strike* a slightly better-looking game than *Soviet Strike*

Nuclear Strike
Publisher: Electronic Arts
Developer: Electronic Arts

The *Strike* series made the leap to 3D admirably with last year's *Soviet Strike*, and if the graphics and gameplay still seemed familiar, it was only because the games had always been in simulated 3D anyway. *Nuclear Strike* is more of the same with some added twists, and it proves once again just how much fun it can be to blow stuff up good.

The photo-realistic graphics, impressive landscapes, and slick FMV are all back, giving the game a familiar look. However, *Nuclear Strike* offers up to 10 different vehicles to control and a much greater variety of missions. The "living battlefield" is a major focus of *Nuclear Strike*, meaning the player has to be a key part in an attack rather than being the whole attack, as in previous *Strike* games. While this adds great depth to some of the missions, the best part of *Nuclear Strike* is still devastating an entire map with barrages of rockets and gunfire, and unfortunately, that alone won't get a player through the missions this time, no matter how satisfying it is.

Those who enjoyed *Soviet Strike* are certain to like *Nuclear Strike* even more, but the games are so similar that if placed side-by-side, it's not likely anyone (besides the developers) could tell the difference. Also, the game feels a little rushed, with water that doesn't ripple and a few other missing touches. Basically, *Nuclear Strike* is a solid continuation of the series but doesn't do enough new to warrant any more than the three stars it receives.
Rating: ★★★

PGA '98
Publisher: Electronic Arts
Developer: EA Canada

PGA is yet another example of a successful EA series that just hasn't cut it on PlayStation. *PGA '96* and *PGA '97* were identical games (with the exception of some "cool" fonts in '97 — oooh, big deal), and both were slow, plodding, and just plain disappointing.

With *PGA '98*, EA hasn't created the perfect golf game but has managed to salvage the series by fixing some major problems. Most importantly, *PGA '98* has cut the deplorable loading time in half, meaning that players can actually get through more than three holes before falling into a coma. Another crucial addition to '98 is the choice of five real courses to play on,

The fourteen pros all have their own signature swings and reactions to deliver a bit of realism to *PGA '98*

including Pebble Beach, Sawgrass, and The Bay Hill Club. In previous console golf games, there have been only one or two courses on which to play, which dramatically cuts down the replay value of the games. Of course, one of the key selling points of the PGA games is the ability to play as any one of 14 PGA pros, including Davis Love II and Peter Jacobsen (sorry, not Tiger — pardon the pun, but he's swinging his own deal apparently, and the license wasn't available), through a tournament. With the five different courses, players can actually get a feel for what it's like to play on the PGA Tour.

The graphics are on par with other versions of the game, but it still could use a serious upgrade. *PGA '98* may be one of the best PlayStation golf games by default — it's one of the only PlayStation golf games. But at least it's actually worth playing this year.
Rating: ★★★

VMX Racing
Publisher: Playmates Interactive Ent.
Developer: Studio e

A few months ago, the one specific sub-genre that was missing from the PlayStation lineup was motorcycle racing games. Unfortunately, because of the inordinately long time *VMX Racing* took to be released, a game like *Moto Racer* has come along and diminished whatever appeal the game might once have offered.

The keys to any motorcycle game are the visuals, which communicate the sensation of speed, and the control, which must both feel and act as if the player is controlling an actual motorcycle. In the area of graphics, *VMX Racing* is at least functional — there isn't too much draw-in, and the airborne feel of

Unappealing graphics and oversensitive controls undermine the gameplay in *VMX Racing*

Motocross jumps is communicated adequately. However, the overall look of the game is rather unappealing, with pixelated bikers on a background of generic PlayStation textures. *VMX Racing*'s graphics definitely lean towards first generation PlayStation rather than the latest wave of great-looking games.

Control is more of a problem, with the overly sensitive digital control requiring a more delicate touch than feels natural. Motorcycle games scream for analog control, and the fact that *VMX Racing* is lacking that feature is a big minus. The one redeeming feature the game offers is the ability to perform maneuvers and tricks by manipulating the throttle settings. But whatever entertainment value this feature holds is soon lost in the overall bland feeling the rest of the game inspires.
Rating: ★★

rating

Saturn

Bust-A-Move 3
Publisher: Natsume
Developer: Taito

The *Bust-A-Move* series (known as *Puzzle Bobble* in Japan) has constantly been a solid success story in the arcades and experienced a favorable translation onto home systems in '96 with *Bust-A-Move 2*. With the third title in the series, Taito has added just enough subtleties to elevate the usual *Bust-A-Move* gameplay to slightly more strategic heights while maintaining the fast,

Bust-A-Move 3 still has all of the puzzle elements to maintain its status as a solid classic

arcadelike play that makes it irresistible.

The simplistic objective of the game remains the same: Line up three or more bubbles of the same color to delete them, then repeat until the board is clear. However, a few new features have been tacked on to the whole package to offer gamers several new challenges. The most interesting change is the addition of meter-based rounds in Puzzle Mode. Instead of simply clearing five boards to win a set of rounds, players must earn enough points to fill a meter on the left side of the screen before they can continue. This feature, along with a clever new Challenge Mode wherein players earn points for attempting varying objectives, adds a slight new level of strategy to the standard puzzle skills the game requires.

Another interesting addition (stolen from Capcom's *Super Puzzle Fighter II* and its ilk) is the inclusion of playable characters in the Vs. CPU Arcade Mode. Bub and Bob return, of course, and the rest are taken from various Taito arcade games, and they all have their own abilities. And for serious addicts (and if *Bust-A-Move* is guilty of anything, it's definitely sleep deprivation and puzzle addiction), *Bust-A-M3* offers a Collection Mode, which harbors hundreds of boards waiting to be cleared.

All of these minor added features contribute enough to the

gameplay to satisfy puzzle gamers looking for a completely new challenge beyond *Bust-A-Move 2*. With the exact same soundtrack as its predecessor, as well as similar graphics, the rest of the game has not been noticeably improved. But it's arguable that the formula Taito and Natsume hit on with the *Bust-A-Move* series needs no major improvements and is sure to please any puzzle fanatic. A must-have classic game.
Rating: ★★★★

Mass Destruction
Publisher: ASC
Developer: NMS Software

The now-defunct BMG game division left some promising software titles behind when it finally closed its doors earlier this year. One of the most promising was *Mass Destruction*, a smartly programmed game from NMS Software. While it was still at BMG, this tank game demonstrated speed and graphic design that were quite impressive for Saturn.

Now ASC is publishing the game for both Saturn and PlayStation, and

Lots of stuff blows up real good in Mass Destruction. It's fun, but it gets old after a few levels

Mass Destruction is still quite impressive. The buildings are very well-detailed and the frame rate is high, with the explosions assisted by the most realistic flame and particle effects this side of *Burning Rangers*. The Saturn version is actually superior to the PlayStation version in control and background animation effects, although it lacks the building transparencies found in the PSX version — mildly annoying, but not a huge loss.

Gameplay is a mixed bag. On the one hand, the feel and layout of each level is excellent. Each jungle and swamp environment feels natural and believable, with plenty of hazards strewn around. Control, from turret rotation to weapon selection, is so easy as to be intuitive. Enemy AI is smart, with tanks and troops laying down traps and covering fire, while players are busy roaming the highly

detailed levels to fulfill multiple mission goals.

On the other hand, *Mass Destruction* is little more than a self-fulfilling prophecy. While mission objectives do vary, it almost always boils down to "blow something up then escape." As players go deeper into the game, the pretty explosions and screams of the dying begin to get old, like anything seen one too many times.

MD is a solid, beautiful, and fun game to play, but only if played in short, controlled bursts.
Rating: ★★★

Terracresta 3D
Publisher: Nichibutsu
Developer: Nichibutsu

Why is it that lately game designers feel they have to add the "D" every time they make the third in a series? That has to be the only explanation for why Nichibutsu, the company behind the quite playable *Moon Cresta* and *Terra Cresta* arcade games, felt it had to create such a gratuitously polygonal shooter.

The original *Cresta* games were conventional, 2D, top-scrolling shooters with a special gimmick that allowed players to dock with up to three ships for increased firepower. Sadly, that's the only feature *Terra Cresta 3D* inherits from its predecessors.

The level design is of the lowest-common-denominator, cookie-cutter, purple-blotchy-copy-of-every-other-shooter-known-to-humankind variety. It's so predictable that the only reason players can't get their ships perfectly in place for the next wave of enemies is the slowness of the graphics engine.

The unimaginative use of 3D is so pathetic it's execrable. Ideally, polygonal graphics should enhance the visual design by creating smoothly animated enemies and eye-catching levels. The polygons here not only slow the game speed, but also make the enemies and textures so bland

that even the original *Terra Cresta* plays better. Choose *Soukyu Gurentai* or the upcoming *Layer Section II* instead.
Rating: ★

Virus
Publisher: Hudson
Developer: Hudson/Sega

For a game that was touted as being as big a breakthrough as *Nights*, *Virus*, developed as a joint venture between Sega and Hudson, comes as such a disappointment it's not even funny.

In Virus, players often have to fiddle with the same screen a long while before getting to the next plot development

Despite the obvious amount of effort that went into the game, the overall experience is that of a depressingly conventional graphic adventure.

At first glance Virus appears every bit as polished as *Enemy Zero* or *Lunacy*. The animation is drawn in a smooth anime style, mixed with detailed computer graphics, making the characters and world of Mars Colony seem more alive than pure computer animation alone, However, once the FMV stops, gameplay is just a notch better than *Myst*. For a large part of the game, players move a cursor around a static screen, looking for cues that an object can be picked up or a person spoken to — the kind of graphic adventure "trolling" we could do without.

Virus loses any veneer of sophistication once players enter cyberspace. Hudson has used the slowest, most low-resolution 3D engine ever seen on Saturn to generate an environment for this supposedly futuristic world. Even worse are the combat segments, which are nothing more than timed shooting galleries.

Even if expectations surrounding this game weren't so high, Hudson has failed to please in almost every respect. If *Virus* is the disease, then someone should work to find a vaccine, and fast.
Rating: ★★

rating

PC

Broken Sword: The Smoking Mirror
Publisher: Virgin Interactive
Developer: Revolution Software

The Smoking Mirror is a sequel to *Circle of Blood* (or *Broken Sword* as it was released in the U.K.). It's an adventure that continues the story of George Stobbard and his love interest Nico. In the first game, they met while uncovering the plot of a secret group of Templar Knights who planned on taking over the world. This time, they travel to South America in search of answers to a strange rock and Nico's sudden kidnapping.

The game is pretty standard graphic adventure fare — players control George (or, in some cases, Nico) with the mouse, picking up items, talking to characters, and generally solving puzzles — there's nothing terribly new here. The animated graphics are beautiful, and the backgrounds were lovingly created with several layers of parallax scrolling. *Smoking Mirror* makes several improvements on *Circle of Blood* in areas like voice acting (some of *Circle of Blood*'s

It might not be revolutionary, but *The Smoking Mirror* is an entertaining graphic adventure

voice acting was simply awful), shadows and other lighting effects, and more intuitive icons for the cursor. Also, players not only control George, but at points they also control Nico, adding more flavor to the game. The game spans two CDs, making it much longer than its predecessor.

As in the first title, locales are set all over the globe, and there are many and varied puzzles to solve. Ultimately, there are only a few outstanding changes from *Circle of Blood*. Not that it's a bad thing — *Circle of Blood* was an outstanding

graphic adventure. What's new helps the game immensely, and the already intuitive interface is still there. *Smoking Mirror* may not be an outstanding leap in graphic adventures, but much like the sequel to a good book, it's a fun romp with familiar characters and well-worth the price of purchase.
Rating: ★★★

Blood Omen: Legacy of Kain
Publisher: Activision
Developer: Crystal Dynamics

Originally released for PlayStation last year, *Legacy of Kain* is a big, bloody, dark, and smashingly good game. A combination of action and graphic adventure — heavy on the action, seeing as how this originated as a console game — it featured snappy control and exactly the kind of edgy treatment of its subject matter we at **Next Generation** find hard to resist.

The PC version doesn't offer much that's new besides a 640x480 high-res mode and shorter load times. However,

Blood Omen: Legacy of Kain was great on PlayStation. Unfortunately, it's less so on PC

the high-res mode is only available to players with plenty of horsepower; the manual recommends a P166, but we got a choppy frame rate even on a P200. In fact, players who are interested in the game and own a PlayStation are encouraged to seek out that version. *Kain* for PC can be controlled by keyboard (less than ideal) or joystick (better), but a joypad is still best. Given this, and barring a screaming Pentium, the PC version just isn't nearly as good as what's already available on console.
Rating: ★★

PC

Totally killer

Total Annihilation
Publisher: GT Interactive
Developer: Cavedog Entertainment

A new king of realtime strategies has just arrived, and it'll stick around for quite a while

Let's face it. Realtime strategy games are a dime a dozen nowadays. So it's a great feeling to find something that stands out from the crowd, and *Total Annihilation* does just that.

The game takes the standard *Command & Conquer* clone several steps further. The units are all three dimensional, as is the terrain. That means each little part of the unit under the player's control moves, and the elevation of the terrain plays a role in strategy — for instance, the line of sight from the top of a hill

is quite long, and you can even see units that can't see you yet. The game comes equipped with more than 150 units. In addition, the game was designed so players can download a new unit a week from the *Total Annihilation* web site at www.cavedog.com. It might make play-balancing the game hell, but considering it means new strategies almost every week, it's well worth it.

The multiplayer component is well-thought-out, with several modes of play, from sharing resources and units to setting unit limits before the game begins. Add to that 50 single-player missions that vary in goal and strategy and objectives, and the game has something to offer both the social and anti-social.

That's not to say the game doesn't have its faults. As wonderful as 150 plus units and growing can be, it's a bit overwhelming to get a handle on. The single-player missions help in that regard, since they start easy and get progressively harder. Some of the play mechanics aren't always perfect either — the very first Core mission was impossible to complete when a ramp got blocked by unit wreckage, and no units could move the mess to clear the way. Not the best way to start off a game.

The designers have not only kept pace with the genre, but pushed it along nicely

Total Annihilation will certainly reign as king of the realtime strategies, at least for now. It's expandable, and if the marketing hype proves true, new abilities for the units should get added in by both expansion packs and downloadable patches. So if you're looking for something that doesn't mimic *C&C* to a fault but gives you a lot of realtime challenge and variation, this is the place to go.
Rating: ★★★★

Although it looks like a standard realtime strategy game, it plays extremely well

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EPIC SPACE CONFLICT

PC

500 forcepower

LucasArts finally gets the first-person
shooter right — and it is magnificent

Jedi Knight: Dark Forces II
Publisher: LucasArts
Developer: LucasArts

C onsidering the flood of mediocre titles from LucasArts in the past year, **Next Generation** was prepared to be disappointed by *Jedi Knight*. After all, the surefire hit *X-Wing vs. TIE Fighter* turned out to be a major letdown, and its latest first-person shooter *Outlaws* turned out to merely be *Dark Forces* wearing a cowboy hat. Imagine our surprise, then, when we got *Jedi* up and running and were totally blown away. Rarely has a PC game made us say "wow" quite this often.

To begin with, there is multiplayer support. LucasArts has included support for 32 players right out of the box, with Capture the Flag and other deathmatch modes built in. *Jedi Knight* also takes a hint from the malleability of *Quake*, giving players 28 different polygonal models to choose from for their character's appearance. Other than the game's main characters and enemies, players can choose to look like C-3PO, Greedo, a storm trooper, and much more. Of course, everyone will want to look like Boba Fett (also included), but it's nice to have this much choice.

The levels are huge and sprawling, making the player feel as though the worlds weren't just created for the game but that they actually exist in the *Star Wars* universe. The refueling stations and cantinas found in the game are functional, each with a purpose. Getting through these levels is never just a matter of shooting storm troopers either; to proceed, players will have to drain fuel tanks, jump down air shafts (*The*

Empire Strikes Back style), sneak aboard departing ships, and more.

The game begins to take huge leaps forward whenever The Force comes into play. Lightsaber-only duels between Kyle and various Dark Jedi are quite common, each prefaced by a narrative describing the enemy. These duels are highly reminiscent of *Bushido Blade*, where only strikes at the proper areas result in victory. The Dark Jedi are as varied as they are evil, ranging from an eager young man to alien "twins" (one immense, one dwarfish). All use the lightsaber well, and all use different techniques.

There are 12 distinct Force powers to choose from: four neutral, four light, and four dark. Performance in multiplayer mode directly hinges on the proper use of these powers, especially the "Healing" and "Force Pull" techniques. "Force Pull" can tear enemies' weapons from their grip, leaving

Jedi Knight **manages to be everything that *Dark Forces* should have been: fast, smooth, and heavy on both strategy and atmosphere. With both style and substance, it's simply a winner**

them more than a little defenseless. As a result, deathmatches are no longer circle-strafe around opponent, fire rockets, repeat. Blinding other players and hacking at them from behind with a lightsaber becomes far more effective.

The game has little to no faults; one could nitpick about the overacting or the rushed look of the menu interface, but in the end, *Jedi Knight* is to first-person shooters what sliced bread is to wheat products.
Rating : ★★★★★

The action can be controlled from either a first- or a third-person perspective. Each has its advantages at different times, and it's good to have a choice. With its selection of weapons, supernatural powers, and beautiful 3Dfx-enhanced graphics, it's the title to beat

rating

PC

EF2000 v2.0
Publisher: Ocean of America, Inc.
Developer: Digital Image Design

There is a good reason flight sims don't usually make it to console systems: As a rule, they're complicated beasts that require a lot of processing power. Case in point: *EF2000 v2.0*. Even on a P100 with 32MB of RAM, at the lowest detail setting, *EF2000 v2.0* was just barely playable. In order to truly enjoy this sim, players will need at least a P120 or a 3D accelerator card installed (both 3Dfx and Rendition are supported). If you do have the hardware, though, *EF2000 v2.0* looks beautiful.

Once players haven gotten past the visual splendor of the environment, which may just be one of *EF2000 v2.0*'s best features, the complexity of the sim begins to shine through. This is not a game that one can learn in an hour, and that is before you even begin to mention the gameplay. Just learning everything the plane is capable of doing will take most players a while. A strategy guide is included with the manual to clarify some points and get players up and flying as soon as possible.
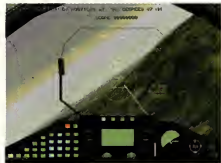
EF2000 **looks good, but unless you've got the hardware, your frame rate is going to suffer**

Gameplay itself is quite detailed, with a multitude of options readily available. The high degree of control is necessary when dogfighting because even the slightest mistake can mean the difference between eating a missile or blowing a bogie out of the sky. In addition to the single-player portion of the game, *EF2000 v2.0* provides some great multiplayer options. Nothing beats the thrill of blowing good friends out of the sky as you come screaming down out of the sun with machine guns blazing.

All in all, *EF2000 v2.0* is a solid update to an already good title. The only real drawback to the game is the fact that you really do need a 3D card to play the game the way it should be played. Aside from that, *EF2000 v2.0* is an excellent choice for anyone interested in a little aerial combat.
Rating: ★★★★

Lose Your Marbles
Publisher: SegaSoft
Developer: SegaSoft

Probably the boldest statement a company can make is that its game is better than a well-established classic — especially since most of the time there's little or nothing to back up the claim. SegaSoft has decided to put its money where its collective mouth is, offering players a money-back guarantee if they

Lose Your Marbles **is fun, and gets fast, but as good as** *Tetris*? **Umm, no**

don't think *Lose Your Marbles* is better than *Tetris*. What do we think? SegaSoft had better have a bunch of refund checks ready.

This doesn't mean that *Lose Your Marbles* isn't a decent puzzle game. The idea is to line up rows of five similar marbles, which then clears the row and throws some marbles at the opponent, who's generally controlled by computer AI. The kink here is that rows can be moved horizontally and vertically, and the center marble has to be added last for the row to count. The learning curve is fair, with the first level or two being extremely easy and things speeding up appreciably by halfway through. Network play is an option, and as always, play between two people always results in a better challenge as well as a much more unpredictable game.

Lose Your Marbles is actually quite fun, even if it doesn't grab players quite like *Tetris* or have the same staying power. SegaSoft's bold statement wasn't exactly foolish, it just wasn't very smart.
Rating: ★★★

Starfleet Academy
Publisher: Interplay
Developer: Interplay

Strictly speaking, this isn't a new game at all. Rather, it's an upgrade to Interplay's *Starfleet Academy*, which came out on
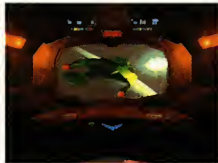
Although *Starfleet Academy* **plays as well as it was designed, it was designed all wrong**

Super NES more than three years ago. Historically, it was one of the last games ever to make use of the SNES FX chip. While this latest version of *Starfleet*

Academy adds a faster 3D engine and FMV featuring relatively brief appearances by William Shatner, Walter Koenig, and George Takei, the basic idea remains the same: As an officer in training at Starfleet, players climb aboard the "Starship Simulator" and take part in an increasingly difficult series of missions designed to test their mettle with brief story segments in between.

If that structure sounds familiar, it should. At one point, we think this game was set in a different universe and called *Wing Commander*.

Which is the one big problem with *Starfleet Academy*, and it's not a problem with anything (well, much) in the game's execution. Given what the designers set out to do, they accomplished it just fine — the 3D engine moves quite smoothly, the FMV has very high production values (some of the acting isn't even bad), and there's multiplayer support. And if the control setup is a little complex, it's no more so than any other flight combat sim.

Rather, it's a problem in the concept of the game itself. Given that starships are supposed to be large capital ships, why then do they maneuver so much like tiny fighters? Which is why, if you'll pardon the pun, we think Interplay missed the boat. At no point does the game give players the impression they're commanding a huge battleship with a crew of hundreds aboard, working together to keep it going. There's a number of screens for shifting energy around, allocating damage control, etc., but it doesn't work much differently from a lot of fighter sims. Combat should have had more fully integrated tactical elements and a generally slower pace, with less of an arcade twitch.

Had the game been designed this way, it not only would have fit the *Star Trek* universe better, but distinguished itself from the myriad other *Wing Commander* clones out there. As it is, for what it is, *Starfleet Academy* isn't bad, but it isn't anything special.
Rating: ★★★

Macintosh

Battle-Girl
Publisher: United-Media
Developer: United-Media

Playing *Battle-Girl* is like opening a window into an alternate universe where the early '80s never died. It's as if United-Media's game sprung into being, fully grown, as the perfect example of what a vector-based game would look like if the genre had survived to modern times.

At its heart, the game is classic twitch. Protect the chips and destroy the programmers, move on to the next level, repeat. As each of the 99 plus levels adds new weapons and enemies, the player's reflexes get tested to destruction until no men (or girls) are left. The early arcade years were full of games of this type, from *Space Invaders* to *Star Wars*.

Battle-Girl takes that heritage and marries it to the stylistic conventions of today. Embedded within its design are the elements of the greats — *Robotron*, *Defender*, *Tempest*, *Asteroids*, and *Sinistar*, to name a few. Yet it uses deft touches of *Tron*-style graphics, techno music, and a *Wipeout* approach to graphic design to keep it fresh. The game is even more impressive yet for the fact that it is literally the work of two people, Scott Laing and Andrew Campbell, slaving away for a year and a half.

Mac gamers who were hooked on *Peg Leg* years ago would do well to give *Battle-Girl* a spin (A Win 95 version should be available shortly). In a world where games like *Tomb Raider* or *Mario 64* may take hours to finish even a

Just like *Sinistar*'s **boss,** *Battle-Girl*'s **Terminus is just as nasty and unstoppable**

Macintosh

single level, it's good to see titles like *Battle-Girl* keeping the hoary excuse, "Videogames improve hand-eye coordination," a believable one.
Rating: ★★★★

Bumbler Bee-Luxe 🔵
Publisher: Dadgum Games
Developer: Dadgum Games

There have always been two types of Mac game developers: those that make conversions of hit PC games, and those that make Mac-only games — games that have a distinctly different feel from their PC brethren. Dadgum Games certainly falls into the latter category, since *Bumbler Bee-Luxe* is little, quirky, and Mac-only.

That said, there is an interesting gameplay mechanism in
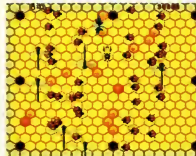
Most games, not even Mac-only games, get as strange as *Bumbler Bee-Luxe*. It's more than worth a look

Bumbler that makes it worth checking out. Basically, this is a 2D, non-scrolling shooter. You're a bee, trying to rid your hive of invaders. Sounds pretty standard, but there's a catch — since you're a bee, you shoot from, um, your rear, although you can only move forward. Imagine *Robotron* with the shooting joystick always held in the opposite direction from the movement joystick and you get the idea. This adds enough of a novel twist to make the game a challenge for anyone, even old-school shooter veterans.

Another nice feature is that each level is one screen big; this lets you see every enemy at once (a big advantage of *Robotron* as well). The enemies all have different movement patterns, some aggressive, some passive, and the graphics are well-drawn. The sound effects are nice, and the game moves very fast (60fps on our machine).

The only downside is that the background never seems to change (at least in the levels we got

through), and sometimes, due to the color scheme, we lost track of enemies against the honey-combed backdrop. Overall though, an excellent effort.
Rating: ★★★★

Quake 🔵
Publisher: MacSoft
Developer: Id Software/ Lion Entertainment

No Mac port has been more anticipated than *Quake*, and while its age may be starting to show as far as shoot-'em-ups go, in terms of network (local and Internet) play, *Quake* has few peers, and fewer still on Mac.

The game's by-now archetypal dark texture-mapped polygons require a Power PC, but *Doom* and *Marathon* vets can finally see what all the fuss is about, although new

The Shambler's lightning attack demonstrates *Quake*'s realtime light sourcing

skills will have to be learned. Thankfully, control buttons are configurable through a standard Mac interface.

As a single-player game, *Quake* can wear thin, but there's a wealth of multiplayer options, with the ability to connect locally on a LAN or over the Internet if you know the IP address; on a responsive server the frame rate can be almost as high as in a single-player game. What's better, Macs can connect to PCs and vice versa.

Though replay value is limited by the lack of interactive environments or even the semblance of a plot, there's no doubt that *Quake* and its engine are something powerful and addictive.
Rating: ★★★★

TIE Fighter
Publisher: LucasArts
Developer: LucasArts

Two years after *TIE Fighter* flew onto PC, this "Collector's" version

has come to the Mac. LucasArts claims improved graphics and expanded missions accounted for the delay; in some part its claim is true — but only in a very small part.

In-flight graphics are improved, with much cleaner cockpit views. The ships are Gouraud-shaded, polygonal 3D models — don't expect to see the texture-mapping that graces the current PC *X-Wing vs. TIE Fighter*. An interesting Mac-only innovation is the rotating turrets on capital ships, as now players can time strafing runs with more precision. The cut scene animations, though, are anachronistically blocky. And cheesy is the MIDI music, although at least the in-flight sound effects ring true. Plus, the flight officer has a perfectly snotty mid-Atlantic accent.
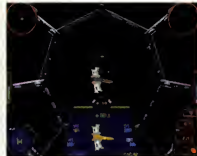
It may have taken a while to get here, and it is behind the curve, but *TIE Fighter*'s gameplay is still classic

The CD includes control sets for most popular joysticks, but players may wish to make a few tweaks; for instance, the center "dead zone" was too large on most sticks, making fine in-flight adjustments touchy. Enemy AI is moderately dumbed down — a TIE Bomber taking out X-Wings at medium difficulty? — but if the game's Rebel vs. Empire kill ratio matched that of the movies, no one would ever progress past the first mission.

Though mission types (recon, escort, etc.) tend to repeat, the ongoing story keeps new iterations fresh, and the game can load custom missions. With more than a hundred sequential and branching missions, it will take weeks for even die-hard fanatics to make it through the entire game. *TIE Fighter*, like the movies, isn't really at the cutting edge, but both still offer more depth and considered design than many young razzle-dazzlers.
Rating: ★★★

SHEAR TERROR
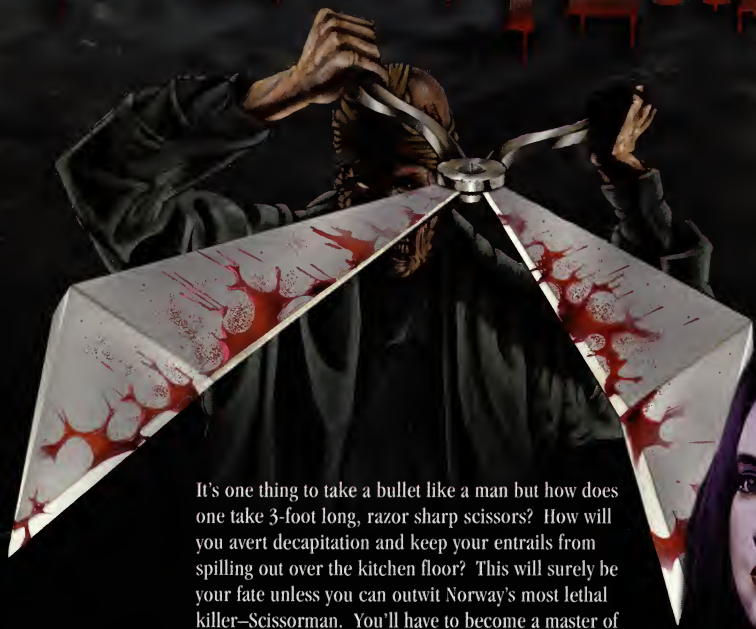
It's one thing to take a bullet like a man but how does one take 3-foot long, razor sharp scissors? How will you avert decapitation and keep your entrails from spilling out over the kitchen floor? This will surely be your fate unless you can outwit Norway's most lethal killer—Scissorman. You'll have to become a master of stealth and deception to avoid being cut to ribbons in this blood-soaked horror adventure.

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ASCII ENTERTAINMENT

PlayStation

MATURE
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CONTENT RATED BY
ESRB

Arcade

Club chaos

Konami is one company that knows how to race

GTI Club: Rally Cote D'azor
Publisher: Konami
Developer: Konami

Konami's driving games keep playing better and better, and *GTI Club* is no exception. The Euro-flavored game lets players drive the kind of small, souped-up cars that are normally given by parents as freebies to kids headed for college: the titular GTI, Le Car, VW Rabbit — a total of eight in all. The course winds through little cafes and villages, up steep staircases, and into oncoming traffic, and yeah, it's fun. For the true mayhem junkies, every course has its share of shortcuts that let players scare hapless pedestrians and run roughshod over their tables. Almost everything is interactive, and the steering wheel supplies force feedback, so with every bump and collision with garbage cans, trees, and oncoming traffic, players not only get to watch the car take damage, but feel it as well.

But *GTI Club* contains small, innovative elements here and there that broaden its appeal. It's different from a *Ridge Racer* or a *Sega Rally*. Instead of just driving a car against a bunch of other AI cars (which is one option), players also can choose a Tag Race, in which drivers pass a bomb back and forth against a clock. Whoever ends up with the bomb last loses. The cabinet also has a built-in emergency brake for skidding turns and spinout; and while this is fun, it's rarely useful. And, as in Konami's last two racing games, players can switch from automatic to manual transmission at any time.

As in *Ridge Racer*, there's actually only one course, but depending on the difficulty level, new shortcuts and streets open up. Graphically, the environments are clean, polygonal structures, but the cars are, oddly enough, sprite-based, although they're good-looking. Exceptions occur when opponents rear-end you and clipping

The selection of cars is a bit surprising, since they're all tiny, Euro models. However, once the race gets going, they're as speedy and maneuverable as you could ask for

muddles the view (there are two views available), an experience that gets annoying during a heated battle. *GTI* is for two players, but there are always at least eight other cars, and the frame rate is high, steady, and unaltered by lots of cars on screen.

In the end, *GTI Club* is a sufficiently immersive one-player game, but with a friend in a Tag Race, it's a blast.
Rating: ★★★★

While the environments are fully polygonal 3D constructions, the cars themselves are sprite-based. They look very good, however, and the game's speed makes the choice a good one

While *GTI Club* does have clunky features, at least the game's two-player, Tag Race mode, along with its single, slowly expanding track, gives it a fair amount of replay value

Arcade

Mortal Kombat 4
Publisher: Williams
Developer: Williams

Williams has finally brought one of the most popular fighting games in videogame history into the world of 3D. The series has been going downhill — neither *MK3* nor *MK Trilogy* came near the intensity, power, and production design of *Mortal Kombat II*. Sadly, neither does *MK4*, but it is a step towards getting the series back on track. Running on the specialized, polygon-crunching Zeus chip, it's a fast-moving, dark, and disturbing fighter that retains many of the series' best qualities.

Besides being in 3D, *MK4* adds some other new wrinkles. Characters are all equipped with weapons, which is different for the series. The weapons (battle-axes, laser guns, etc.) can be knocked out of an opponent's hands and picked up. Twelve characters are joined by three secret characters, and each older returning fighter has retained old moves while gaining new ones. A few of the new characters (Quan-Ji and Chinok) are solid additions.

Mortal Kombat 4 isn't the greatest, but at least it's a step in the right direction

The "3D" is somewhat primitive, however. To be sure, the graphics are gorgeous in design, with ferociously dark, evil artwork, especially in the backgrounds, and lighting effects are exquisitely handled. However, combat takes place strictly along a 2D axis while the camera shifts occasionally. In all fairness, this is little different from *Street Fight EX Plus Alpha*, or for that matter *Virtua Fighter 2*; however, the characters appear so flat and the moves so stiff that it could still pass for a 2D game if you squinted at the screen.

As it stands, *Mortal Kombat 4* won't send fans into the darkness to gnash their teeth. Midway has put a lot of work into this new version and has come up with promising results. The game isn't a groundbreaker, but it plays roughly the same as previous entries, and at least the design is as solid as its polygons. It may not be what we'd hoped for, but it's much better than *War Gods*. Let's hope Midway stretches its wings a bit more with *MK5*.
Rating: ★★★

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Dec. 17 Wednesday The Big List Short and sweet reviews of every single U.S. Saturn title. Just in time for the holidays, too! www.saturnworld.com

Dec. 18 Thursday The Top Five N64 Games N64.com gives readers a no nonsense critique of the five best and worst games available in time for the holiday season. We'll tell you about the best buys for your buck and what games should be avoided at all costs. www.n64.com

Dec. 19 Friday Hep: The Legend What is 'Hep' and what the heck does it have to do with gaming? Find out in UGP Online's craziest feature yet. You won't want to miss this one! www.ultragp.com

Dec. 22 Monday Feature: The Games of 1998 The new year is almost upon us, and that means another year of great games. PSXPower examines these games, and points out the ones to watch. www.psxpower.com

Dec. 23 Tuesday Quake Resource Update Next Generation takes anothe look at the best resources for Quake players including updates, GL patches, and the best mods on the Internet. www.next-generation.com

Dec. 24 Wednesday A Day in the Life Say hi to the SaturnWorld editors in a totally natural and unscripted feature about the high-paced world of Saturn games. www.saturnworld.com

Dec. 25 Thursday Insult the Editors Day The editors of N64.com will be hosting an "insult the editors" Palace session for your enjoyment. Disagree with an editorial? Don't like our review? Love wrestling? Let us have it — but prepared to take it as good as you can give. www.n64.com

Dec. 26 Friday What's Next? Ultra Game Players Online looks ahead into 1998 to bring you a glimpse of the new year's hottest prospects and major events. www.ultragp.com

Dec. 29 Monday Special Chat PSXPower hooks you up with a major developer who will talk about the company's latest game as well as snippets from forthcoming titles. www.psxpower.com

Dec. 30 Tuesday Talk with the Editors Palace chat with the stellar online writers who hook you up everyday with the best in the business. See what they really think of the latest games. www.next-generation.com

Dec. 31 Wednesday Editorial Challenge The editors from the online sites N64.com, Saturnworld, Ultra Game Players, and PSXPower take each other to task in this reader-requested special debate. A rip-roaring time for all. www.saturnworld.com

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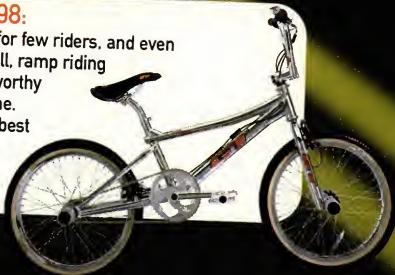
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GT Interactive Software

Get it off your chest. Fulfill your ambitions to let your opinions be heard by becoming a printed author. Well, sort of. Write us at **Next Generation** Letters, ngonline@imagine-inc.com. Everything is read, if not replied to. Letters may be edited for space and clarity. Email only, please — we've forgotten how the letter opener works

Writers on the storm

I don't think this has been addressed yet, so I'll take a stab at it. What is the most common character seen in videogames? White, male, and able to do the task ahead. That's what the vast majority of main characters in videogames of today and yesterday look like. Sure, there are female heroines, more now than in the past, which is an improvement, but there are also cutesy animals, insects, and robots.

What kind of hero is lacking in the videogame industry? African-Americans. Sure, there have been a few that were featured in games, but mostly as sidekicks. There are some lead characters that happen to be black, like Spawn, for example. However, I bet that you can count the number of African-Americans that have been lead characters on one hand. Maybe I'm overreacting, but think about the top games out now and games that are coming out. Everything from spiders to crocodiles have been worked in as lead characters, but African-Americans (as leads) are practically nonexistent.

I hope that game developers read this so that they may take it into account and give it serious thought when constructing their next hero.
"The Dawg"
ufs11147@email.sjsu.edu

An excellent point. Indeed, aside from a few characters in the rosters of fighting games (and, of course, sports games), only two titles in the last two years have featured African-Americans in a prominent role. One was Shell Shock *from U.S. Gold, which starred "Da Wardenz," a group of freelance tank commandos (and wasn't very good).*

As for the other, well, while we're on the subject, point number two ...

I have to tell you how glad I am that the *Final Fantasy VII* review in your October issue made a point about Barret, the only African-American character in the game.

Barret's grating Mr. T stereotyping in *FFVII* seems to have offended more than a few people. How could Square and Sony let this happen?

I am African-American, and although I truly enjoy *FFVII*, I was quite appalled and disappointed to see a representative of my race portrayed so poorly. I instantly noticed from the first level just how different Barret was from the other characters: The "Mr. T" look, the slang ("Ebonics" is such a bad word ... try not to use it again), the militantness, the unlevelheadedness, etc. I think this is a major setback for gaming, and I've been gaming since the Telstar Ranger.

How are we, African-American gamers, supposed to feel when the fastest-selling PlayStation game of all time has us acting so foolish? Did the people at Square really think that we would all relate to Barret in some way and feel more compelled to play?

Without getting too political, I have always known the Japanese to be somewhat sexist (anime porn, bondage, etc.) and racist, but to allow such a blatant display in such a major U.S. release is quite disrespectful, disturbing, and very dangerous. I may be a little harsh with my words, but how many more games will Square, or any other Japanese developer, release portraying common, unwanted stereotypes?

This kind of thing needs to be addressed.

By the way, I was never interested in role-playing games — *Final Fantasy VII* was the first one I ever bought. If this is what I have to expect, I may never buy another.
Russell Merritt
Russell.Merritt@rnb.com

Excellent points. In the Japanese version of the game, the character Barret doesn't really speak in slang to any great extent. Apparently what we are witnessing is Square's clumsy, ham-fisted attempt to localize the game to American tastes. The Japanese are known for stylized, melodramatic, and exaggerated portrayals in entertainment, from their Noh play traditions to purple-haired, super-deformed anime characters. Playing up stereotypes is one expression of this — it probably wasn't intended to be offensive or racist. It may have even been a misguided attempt at adding "realistic" dialogue. Still, this probably would never have been an issue if Square had let the translation be done in America. Square's ex-translator, Ted Woolsey, did all its previous titles in the U.S., and his translations are some of the finest we've seen.

In SCEA's defense, it received the final FFVII *code a scant couple of weeks before the title was to ship. There was some concern raised about Barret, but there wasn't really time to change anything before meeting a highly anticipated release date. There were also fears about raising the ire of Square fans, who had been screaming for* FFVII *to reach the U.S. uncensored.*

However, we're not setting ourselves up as apologists for Sony, Square, or the Japanese. In fact, a few of us here at **Next Generation** *were so offended, we debated giving* FFVII *only one star on principle. Barret's dialogue should not have been changed for the English version; the slang detracts from the overall dramatic impact, and a*

corresponding

rewrite would only have made the story and character stronger.

And we're sorry about "Ebonics." We won't ever use it again.

I'm an N64 owner and have three games. The games up North here are about $119 to $129! So I have spent about $350 on just three games! I really enjoy the games I have, but the prices are ridiculous, especially here in the Arctic. My point is, Nintendo should lower prices. If N64 owners, like you say, buy N64 games anyway, even though they are really expensive, we N64 owners should get more respect and demand even better "quality" games. Right now, a $199 gem called a PlayStation, with games costing $39 up to $79, sounds very tempting. I admit now that I'd buy a PlayStation just to play *Final Fantasy VII* and *Tomb Raider*. But I just don't have enough money to buy them after buying all my "quality" games for my Nintendo 64. There must be something we N64 owners can do to lower prices and demand better-quality games, right?

Mark Henderson
mark.henderson@Nunaliit. Com

Well, your prayers have been heard. See the news section about Nintendo's price drop. Stay warm, brother.

Now that M2 is not going to be released, I was thinking about what will happen to the games that were going to be out when it shipped? Some of them looked good, and it would be a shame if they can't be played. What about Sega's new 64-bit machine? I heard it was supposed to be more powerful than M2. It's sad that people spent so much time and money on games that won't see the light of day.

Tyrone Morrison
TMorri2239@aol.com

The slow heat death of M2 has left a number of projects in limbo. Studio 3DO's *IMSA Racing* and an as yet untitled baseball game are both being reworked from the ground up for PC and perhaps other consoles. Warp's *D2* is being ported to Saturn — a somewhat surprising move perhaps, but the developer has a lot of experience with the system (and apparently doesn't have an especially friendly relationship with Sony), so it made sense as a way to get it out the door. Rumors of Warp waiting to port the title to Sega's new system are likely to be just that: rumors.

However, just about every other title in the works for M2, including *Power Crystal* from U.K. developer Perceptions (**NG 26**), has simply been scrapped entirely. The really sad thing is to realize that after two years of waiting for M2, a half dozen lost titles is a pathetically tiny amount of fallout.

I was reading your article on new tool kits for game development that require no programming skills at all (**NG 33**) and thought it was very exciting for people like myself, nonprogrammers who have lots of gaming ideas roaming around in our heads. I just have one question: Is it possible to use any of these software packages — Torch, Catalyst, Motivate — with the Net Yaroze in some way? Thanks.

Daniel Durango
durango@agt.net

First of all, these packages do require at least some programming skills (see Toolbox this issue for a more thorough evaluation of Catalyst) — Catalyst uses Java for scripting, while Motivate uses a proprietary language that's similar to LISP. Don't be fooled into thinking you'll load up Catalyst, click the mouse a few times, and instantly have the next big game. These packages make the process a lot easier by

Matsushita's long-awaited M2 console is finally dead as dust. So what happened to the titles that were in development for it?

providing a ready-made game engine, but that's all.

That having been said, to answer your question: no. A very, very clever programmer might be able to work with the Catalyst or Motivate SDKs and rig some way to make them work with Yaroze, but Yaroze is programmed using pure C++, and neither tool kit outputs C++ routines or even uses the same graphics format as PlayStation. Sorry.

I'm beginning to notice an annoying trend in your magazine. In your Alphas section, it seems a great number of previews use phrases to the effect of, "The potential of [insert technology and/or technique here] is nearly limitless and could revolutionize this genre of games." This makes it seem as though each of these titles is doing something light-years ahead of every other developer's products, and your readers come away thinking this is the next big thing. Then a few months pass, and the game is in the Finals section, and almost invariably, the text accompanying the three stars is a variation on, "Overall, Game X is a relatively satisfying gaming experience, but ultimately a forgettable product that could have been much, much more."

In all fairness, I realize that

you are previewing an unfinished product with limited functionality, but surely you can do your previews without adding undue hype. I get the feeling that **NG** adds this "could be revolutionary" tag to 50 games so that it can then put the greatly desired line, "As reported in **NG 28**, this is one of the year's best" on the three games that do prove to be hits. Please try to temper this in the future. Overall, you have an excellent publication with a fine reputation, and have no need to resort to unwarranted plugs and "we-told-you-so" reporting to convince us of this.

Brian Bearly
brianb@DevilsThumb.COM

Fair enough. One point worth mentioning, however, is that **Next Generation** tries to concentrate on games in development that are interesting, different, or actually could be the next big thing to begin with. Whether or not the design process falls short of our expectations, they are our genuine expectations at the time, and when presented with cutting-edge technology or treatments, it's sometimes difficult not to get carried away. We'll certainly try, however, and our previews writers are being fitted for thorazine drips.

Next Month

What's the sound of one hand clapping? If no one's around to hear a tree fall in the woods, does it still make a sound? What is the meaning of life?

These are questions to which we have no answers. However, for the answer to which industry players have the most influence on the future of videogames, **Next Generation** is the ultimate source. Next month, we kick off the new year with a glamorous look at the most important videogame personalities in America. Help us celebrate the gaming world and its greatest players with this very special feature story — and be on the lookout for limited-edition collector's item issues.

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NINTENDO⁶⁴

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HOLIDAY ISSUE